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DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FINAL
ENVIRONMENTAL ASSESSMENT
WY-042-EA80-15

WHITNEY CANYON - CARTER CREEK

NATURAL GAS PROCESSING PROJECTS

IN

UINTA AND LINCOLN COUNTIES, WYOMING
RICH COUNTY, UTAH

May 14, 1980

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1791(420)

May 14, 1980

To Reader:

The goal of the environmental analysis process is to ensure that environmental information is available to public officials and citizens before decisions on a particular proposal are made and before actions on that proposal are taken. The environmental analysis process is intended to help all public officials: (1) make decisions that are based on an understanding of the environmental consequences of the alternatives including the proposed action; (2) take actions that assure the protection, restoration, and/or enhancement of the affected environment; and (3) to document the analysis process and subsequent decision(s) for public review.

This environmental assessment (EA) documents the analysis of the probable environmental impacts that would be associated with the proposed Whitney Canyon (Amoco Production Co.) and Carter Creek (Chevron U.S.A. Inc.) natural gas processing projects that would be located in Uinta County of southwestern Wyoming. Issuance of rights-of-way by the Bureau of Land Management (BLM) are needed for the construction, operation, and maintenance of these two, separate proposed projects. The National Environmental Policy Act (NEPA) of 1969 as amended (42 U.S.C. 4321 et seq.) requires that all programs and activities affecting the land and resources under BLM jurisdiction be analyzed for probable environmental impacts. Subsequent Council on Environmental Quality (CEQ) regulations for Section 102 of NEPA require Federal agencies to consider projects as a whole, even when certain portions of those projects involve non-Federal land and resources (40 Code of Federal Regulations (CFR) 1508.7).

The cumulative impacts of these proposed projects have been analyzed on the basis of the best information available. As the individual rights-of-way (ROW) applications would be received by the BLM, more detailed, site-specific analyses would be conducted to supplement as necessary this EA. These site-specific assessments would document the impacts, appropriate mitigation, and alternatives to the proposal that could not be addressed in this EA because site-specific information was not yet available. The site-specific analysis and this document would be used as the basis for the decision on that particular ROW.

Sincerely yours,

Donald McDougal

District Manager

SUMMARY

Amoco Production Company (Amoco) and Chevron U.S.A. Inc. (Chevron) propose the construction and operation of separate natural gas processing projects with sulfur recovery (gas sweetening plants). These two facilities would process a combined total of 770 million cubic feet (mmcf) per day of natural gas (Amoco 250 mmcf and Chevron 520 mmcf) from the recently discovered Whitney Canyon and Carter Creek fields. These fields are located in the Overthrust Belt portion of extreme southwestern Wyoming approximately 18 air miles northeast of Evanston, Wyoming.

The Whitney Canyon Project (Amoco) and the Carter Creek Project (Chevron) as proposed by the companies would include construction of processing plant facilities, product storage facilities, railroad loadout facilities, 35.2 miles of spur railroad, 4.7 miles of molten sulfur pipelines, approximately 25 miles of well gas gathering pipelines, 12 miles of new access roads, 12.6 miles of 138 kilovolt (kv) primary electric powerlines, two construction camps to accommodate a total of 1,500 workers, and various other related facilities. BLM proposes to issue the necessary rights-of-way across public lands for the construction, operation, and maintenance of these projects. It is estimated that 1,026 acres of public, State, and private lands would be occupied by these various facilities during the project life of the plants.

The plants are needed if the estimated 10 trillion cubic feet of natural gas reserves of these fields are to be marketed. These facilities would mainly process hydrogen sulfide (H_2S) contaminated well gas to produce marketable natural gas, various liquid hydrocarbons, and elemental sulfur. The natural gas and the majority of the liquid hydrocarbons would be sold to pipeline companies for shipment to markets, while the elemental sulfur and some stabilized liquid condensates would be shipped by rail.

During construction of these projects, it is estimated that 1,824 acres of private, State, and Federal lands would be disturbed. Peak construction forces of approximately 1,100 for Chevron and 600 for Amoco workers would be needed with seasonal variations. Amoco would employ 69 and Chevron would have 120 employees for the operation and maintenance of the respective plants.

The alternatives that were identified mainly dealt with other railroad routes or means of transporting the sulfur from the plant sites to some existing railroad line. Any of the alternatives requiring a lengthy molten sulfur pipeline were considered to be technologically infeasible based on current information available at this time.

The major findings of this EA are:

1. Amoco and Chevron need the respective facilities to make pipeline-quality natural gas available for marketing and to separate from that gas liquid hydrocarbons and elemental sulfur which also would be marketable. Rights-of-way across public lands are necessary for the companies' proposed operations to develop Federally controlled oil and gas leases under the Mineral Leasing Act of 1920 as amended and the Mining and Minerals Act of 1970.

2. The issuance of rights-of-way by the Bureau of Land Management (BLM), and subsequent construction, operation, and maintenance of these facilities by the companies would affect the human and natural environments.

3. The proposed plant sites appear to be the best sites available due to requirements of Prevention of Significant Deterioration (PSD) air quality constraints, the suitable topography at those sites, and their locations in relation to the Whitney Canyon and Carter Creek fields.

4. The railroad is the only reasonably feasible way the large sulfur production could be shipped to market. Approximately 2,288 short tons of sulfur per day would be produced during initial production, and production could reach 4,965 short tons per day.

5. Of the various railroad routes addressed, the proposed route would appear to have the most effect on wildlife, would be the least expensive in terms of overall economics, and would best fit the Union Pacific Railroad's transportation plan of development for the area.

6. Peak construction workforces would have short-term effects on socioeconomic conditions in the area, primarily Evanston. Long-term effects on socioeconomic conditions (during plant operations) would be basically beneficial due to the relative large increase in local tax revenues.

No notable or pertinent areas of public controversy were identified in this EA.

This EA identified the following issues to be resolved:

1. The proposed actions have been analyzed for effects to Threatened and Endangered (T&E) species. It was determined by the BLM a "may affect" situation exists with the proposed railroad route concerning a bald eagle winter roosting site and black-footed ferret habitat. BLM has requested Section 7

consultation with the U.S. Fish and Wildlife Service (FWS), as required by the Endangered Species Act, to determine the extent of impact, if any, to these species.

2. The proposed railroad route intersects a portion of the historic Oregon Trail. A determination of eligibility for nomination to the National Register of Historic Places is needed.

TABLE OF CONTENTS
WHITNEY CANYON-CARTER CREEK NATURAL GAS
PROCESSING PROJECTS FINAL ENVIRONMENTAL ASSESSMENT

SUMMARY---------- i
PURPOSE AND NEED---------- vii

I. DESCRIPTION OF THE ALTERNATIVES INCLUDING THE PROPOSED ACTION 1
BACKGROUND---------- 1
PROPOSED ACTION---------- 1
Bureau of Land Management---------- 1
Proposals of the Companies---------- 1
Authorizing Actions---------- 21
ASSUMPTIONS AND ANALYSIS GUIDELINES---------- 23
ALTERNATIVES---------- 23
No Action---------- 23
Processing Plant Site Alternatives---------- 24
Storage and Loadout Site Alternatives---------- 24
Sage Junction Molten Sulfur Line Alternative---------- 24
Cottonwood Creek Molten Sulfur Line-Railroad Alternative-- 24
Alternative Analysis---------- 24
APPROPRIATE MITIGATING MEASURES---------- 26

II. AFFECTED ENVIRONMENT 29
PHYSICAL ENVIRONMENT---------- 29
TERRESTRIAL WILDLIFE---------- 29
Big Game Crucial Habitat---------- 29
Sage Grouse Strutting/Nesting Complexes---------- 31
Threatened and Endangered Species---------- 31
AQUATIC WILDLIFE---------- 31
LIVESTOCK GRAZING---------- 32
CULTURAL RESOURCES---------- 32
Prehistoric---------- 32
Historic---------- 32
VISUAL RESOURCES---------- 32
LAND USES---------- 35
TRANSPORTATION NETWORKS---------- 35
SOCIOECONOMIC CONDITIONS---------- 35
Population---------- 35
Housing---------- 35
Employment---------- 39
Schools---------- 39
Public Service Agencies---------- 39
Health Services---------- 39

III. ENVIRONMENTAL CONSEQUENCES 46
IMPACTS OF THE ALTERNATIVES INCLUDING THE PROPOSED ACTION---------- 46
Impacts of the Proposed Action---------- 46
Air Quality---------- 46
Topography---------- 46
Geology---------- 46
Soils---------- 46
Water Resources---------- 49
Vegetation---------- 49

TABLE OF CONTENTS
(continued)

Terrestrial Wildlife---------- 49
Aquatic Wildlife---------- 52
Livestock Grazing---------- 52
Cultural Resources---------- 55
Visual Resources---------- 55
Land Uses---------- 55
County Planning and Zoning---------- 55
Transportation Networks---------- 55
Socioeconomic Conditions---------- 55
Impacts of the Alternatives---------- 61
MITIGATION NOT INCLUDED IN THE PROPOSED ACTION OR ALTERNATIVES------ 61
Air Quality---------- 61
Geology---------- 61
Soils---------- 61
Water Resources---------- 63
Terrestrial Wildlife---------- 63
Livestock Grazing---------- 64
Recreation Resources---------- 64
Visual Resources---------- 64
Transportation Networks---------- 64
Socioeconomic Conditions---------- 64
UNAVOIDABLE ADVERSE IMPACTS---------- 65
Air Quality---------- 65
Mineral Resources---------- 65
Topography---------- 65
Soils---------- 65
Water Resources---------- 65
Vegetation and Livestock Grazing---------- 65
Terrestrial Wildlife---------- 65
Recreation Resources---------- 65
Cultural Resources---------- 66
Visual Resources---------- 66
Socioeconomic Conditions---------- 66
RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY------ 66
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES---------- 66
SUMMARY OF ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES---------- 67

IV. CONSULTATION AND COORDINATION 79
TEAM ORGANIZATION---------- 79
COORDINATION IN PREPARATION OF THE PROPOSED ACTION---------- 79
Public Consultation and Coordination---------- 79
PUBLIC PARTICIPATION---------- 79
COORDINATION WITH OTHER AGENCIES---------- 81
PUBLIC REVIEW COMMENTS---------- 81

APPENDIX 1. LIST OF STANDARD STIPULATIONS---------- A- 1

APPENDIX 2. CONSTRUCTION SCHEDULES AND MANPOWER---------- A- 22

APPENDIX 3. VIEWS ALONG PROPOSED RAILROAD---------- A- 29

TABLE OF CONTENTS
(continued)

APPENDIX 4. DEQ AIR QUALITY ANALYSIS OF PLANT SITES---------- A- 41

APPENDIX 5. BLM REQUEST FOR SECTION 7 CONSULTATION---------- A- 64

APPENDIX 6. VISUAL CONTRAST RATINGS FOR PROJECT AREAS---------- A- 76

APPENDIX 7. LOCAL GOVERNMENT RESPONSES TO BLM---------- A- 86

APPENDIX 8. EXAMPLE OF UINTA COUNTY PERMIT SYSTEM---------- A- 92

GLOSSARY---------- A-100

LITERATURE CITED---------- A-104

PURPOSE AND NEED

The purpose of the proposed Whitney Canyon and Carter Creek natural gas processing plants is to process an estimated 10 trillion cubic feet of natural gas from the newly discovered Whitney Canyon and Carter Creek fields of southwestern Wyoming. The proposed processing plants are needed in order to produce pipeline-quality gas which can be sold to various markets and to separate out of this gas the associated liquid hydrocarbons and the extremely dangerous hydrogen sulfide gas. Without these plants, the natural gas found on Federal, State, and private leases in these fields cannot be used or marketed. There is no "middle ground": no processing facilities, no utilization of this particular energy resource.

Presently and in the foreseeable future, this country is and will be dependent upon this type of energy development if it is to maintain a high standard of living. The processed gas and other petroleum by-products from these proposed processing facilities equivalent to heating more than 800,000 homes per day, would reduce this country's dependency upon an increasingly uncertain foreign oil supply, as well as contribute to the reduction of this nation's balance of payment deficit.

Implementation of these proposed actions would necessitate the Bureau of Land Management's issuance of various rights-of-way on public lands that would be needed for the construction, operations, and maintenance of these projects.

CHAPTER I
DESCRIPTION OF ALTERNATIVES INCLUDING THE PROPOSED ACTION

Background

The Overthrust Belt (Figure I-1) is this nation's most important oil and gas exploration area since Prudoe Bay. To date, 12 commercial fields have been discovered with projected ultimate gas reserve potentials of 100 trillion cubic feet (tcf). The Overthrust Belt is destined to become the nation's most important new gas supply province of the past 20-30 years. Current Overthrust Belt production is modest because many of these fields are still in their early stages of evaluation, and there is a lack of gas plants and pipelines to process and transport the large quantities of natural gas which have been found (Western Oil Reporter 1979).

In August of 1977, Amoco discovered the Whitney Canyon deep field with a 4,500-foot-thick gas effective column, a figure usually associated with fields in the Middle East. Shortly thereafter, in 1978, 9 miles north of the Whitney Canyon discovery, Chevron made its Carter Creek deep discovery with similar showings as that of the Whitney Canyon field. It is anticipated that these fields (Map I-1) have a combined total recoverable gas of approximately 10 tcf.

These fields produce highly toxic and corrosive hydrogen sulfide (H_2S) gas which must be processed before the natural gas can be marketed. H_2S concentrations in these two fields are extremely high (15-17%). The two projects proposed by Chevron (Carter Creek) and Amoco (Whitney Canyon) would process this H_2S contaminated gas, producing marketable natural gas, natural gas liquid hydrocarbons, and elemental sulfur. The natural gas and liquid hydrocarbons (see Glossary) would be transported primarily by pipeline to the East and Midwest, while the recovered sulfur would be transported by rail primarily to the Pacific Northwest.

Proposed Action

Bureau of Land Management

BLM proposes to issue the necessary rights-of-way (ROW) for the construction, operation, and maintenance of the proposed Carter Creek and Whitney Canyon natural gas processing facilities.

Proposals of Companies

Amoco and Chevron propose to build natural gas processing plants (see Glossary) with associated sulfur recovery facilities in Uinta County, Wyoming, approximately 18 air miles northeast of Evanston and about 30 air miles southwest of Kemmerer (Map I-2). The Amoco plant would be on private land in the N1/2SE1/4 of Section 17, T. 17 N., R. 119 W. (Map I-2 and Photo I-1), while the Chevron plant would be on public lands within Section 6, T. 18 N., R. 119 W. (Map I-2 and Photo I-2). The surface ownership pattern of this area is checkerboard; i.e., odd-numbered sections are predominately private and even-numbered sections are predominately public lands.

Each proposed project (see Glossary) would consist of two major subfacilities--the gas processing plant and a storage and load-out site--with support facilities that would include an interconnecting facility corridor, well gas gathering lines, water supply lines, primary and secondary powerlines, access roads, Chevron airstrip, construction camps, and telephone lines. Both companies would use portions of the railroad and access roads. Table I-1 lists the facilities proposed for both projects, the surface ownership of the lands involved, and the area which would be involved during the construction and operation of the facilities.

Processing Plants

Each processing plant (see Glossary) is designed to remove contaminants and liquids from the well gas and to provide commercial pipeline-quality natural gas. That process would produce by-products of elemental sulfur and liquid hydrocarbons (Figures I-2 and I-3). The basic operations of the plants would be:

1. Separate liquids from produced gas

2. Remove acid gas from the gas stream

3. Reduce H_2S acid gas to bulk sulfur

4. Stabilize and sweeten hydrocarbon liquids

5. Reduce hydrocarbon and water dew point of sales gas to pipeline specifications

6. Compress sales gas to pipeline pressure and supply it to the purchaser's pipeline.

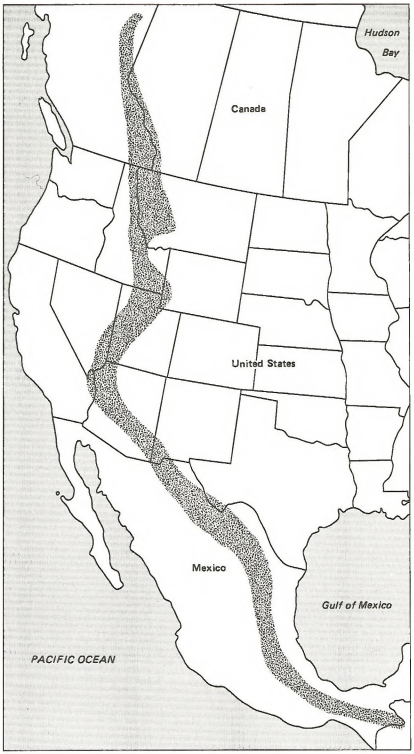
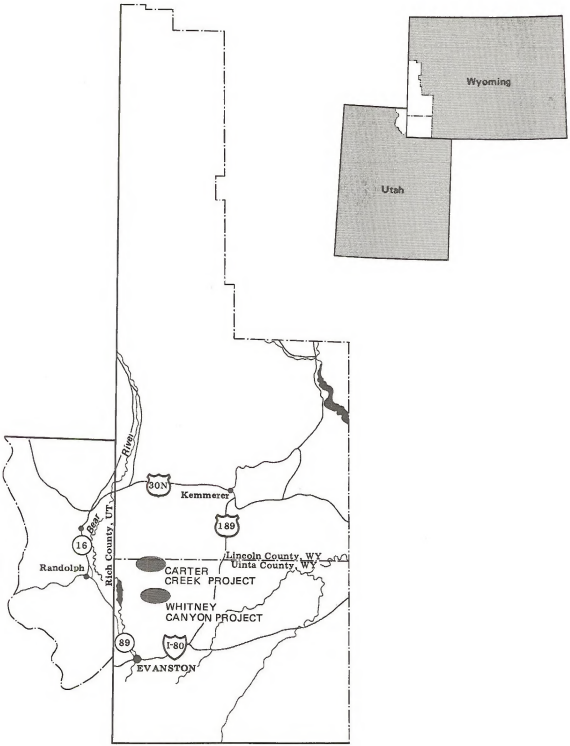
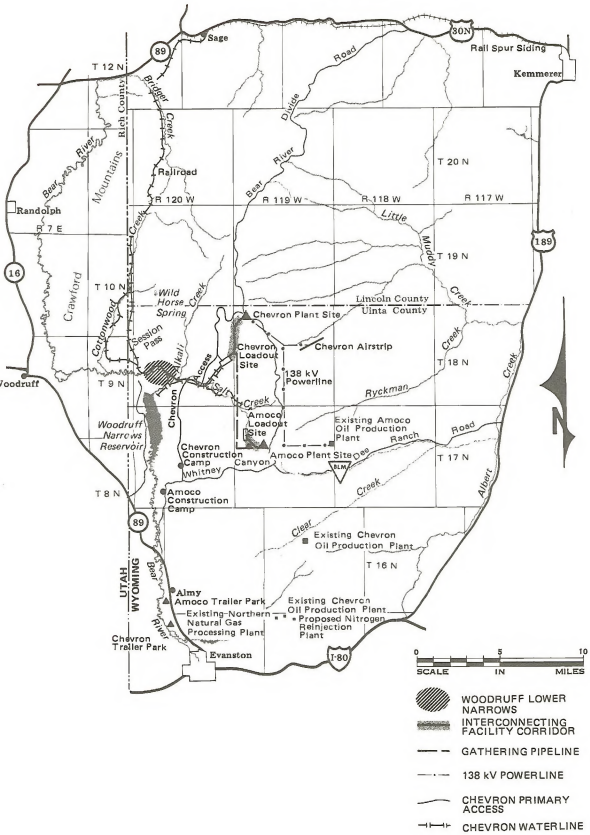


FIGURE I–1
OVERTHRUST BELT



MAP I-1
GENERAL LOCATION MAP



MAP 1-2
PROPOSED FACILITIES AND ACCESS ROUTES

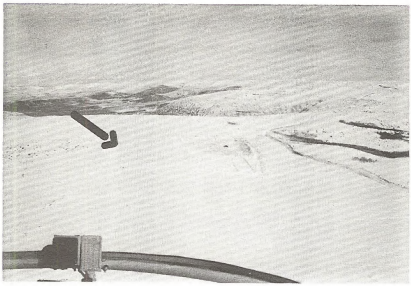


Photo I-1. Amoco's gas processing facilities would be located on the Bear River Divide approximately 18 miles north-northeast of Evanston. The snow-plowed lines (arrow) are the approximate boundaries of the site.

Photo I-2. Chevron's gas processing facilities would be located along the Bear River Divide approximately 18 miles northeast of Evanston, Wyoming. This photo was taken north of Chevron's proposed site, which would be located to the left of the drill rig (arrow).

Table I-1

FACILITIES OF THE PROPOSED ACTION

Facility	Approximate Right-of-Way Width in Feet	Approximate Right-of-Way Length in Miles	Acres of Land Involved in Right-of-Way: Public	State	Private	Total	Estimated Total Acres to be Disturbed During Construction	Estimated Total Acres to be Permanently Used by Facility
Chevron's Carter Creek Project								
Processing Facility		N.A.	477.0	-	-	477.0	300	182
Storage and Loading Facility		N.A.	144.0	-	96.0	240.0	150	92
Interconnecting Facility Corridor	100	3.3	10.0	-	30.0	40.0	40	10
Railroad	200	1.8	53.0	-	16.0	69.0	52	35
Access Roads (New)	50	12.0	29.1	-	43.4	72.5	73	70
Access Roads (Existing)	50	4.2	4.7	8.0	12.8	25.5	1/	N.A.
Primary Electric Powerline	80	8.8	38.0	-	47.0	85.0	21	11
Well Gathering Pipelines	50	14.1	29.9	4.3	51.2	85.4	85	1
Water Supply Pipeline	25	4.1	7.9	-	4.5	12.4	12	-
Construction Camp Site		N.A.	-	-	40.0	40.0	40	2/
Construction Camp Road	50	0.2	-	-	0.9	0.9	0	2/
Airstrip	100	1.2	10.0	-	5.0	15.0	15	13
Chevron Project Acres			803.6	12.3	346.8	1,162.7	789	414
Amoco's Whitney Canyon Project								
Processing Facility		N.A.	-	-	125.0	125.0	200	125
Loadout Facility		N.A.	14.0	-	82.0	96.0	96	72
Interconnecting Facility Corridor	100	1.4	-	-	16.0	16.0	16	8
Railroad	200	4.8	20.0	27.0	70.0	117.0	88	59
Access Roads (Existing)	50	8.2	15.8	3.0	30.8	49.6	1/	N.A.
Primary Electric Powerline	80	3.8	10.0	10.0	17.0	37.0	10	1
Well Gathering Pipelines	50	10.7	15.0	-	47.0	62.0	62	1
Water Supply Pipeline	25	0.5	-	-	2.0	2.0	2	-
Construction Camp Site		N.A.	-	-	40.0	40.0	40	2/
Construction Camp Road	50	0.2	0.2	-	0.8	1.0	1	2/
Amoco Project Acres			75.0	40.0	430.6	545.6	515	266
Common Use Facilities - Amoco and Chevron								
Railroad	200	28.6	444.0	64.0	185.0	693.0	520	346
Access Road (Existing)	50	0.6	0.4	-	-	0.4	1/	N.A.
Common Use Acres			444.4	64.0	185.0	693.4	520	346
Total Acres			1,323.0	116.3	962.4	2,401.7	1,824	1,026

N.A. - Not Applicable.

1/ Existing Road.

2/ Construction camps would be dismantled and rehabilitated after construction period.

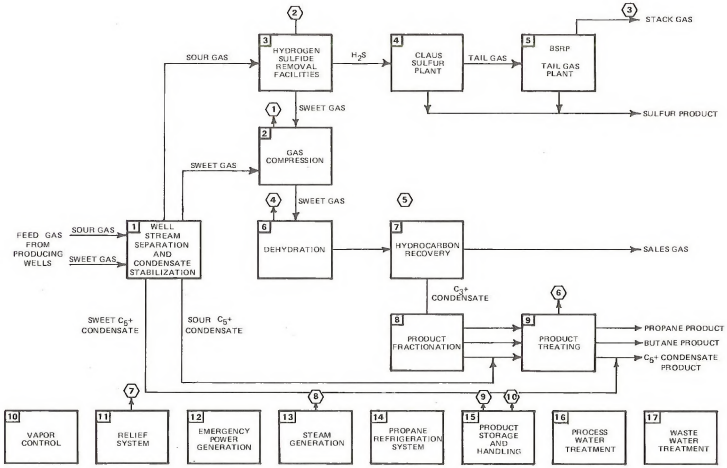
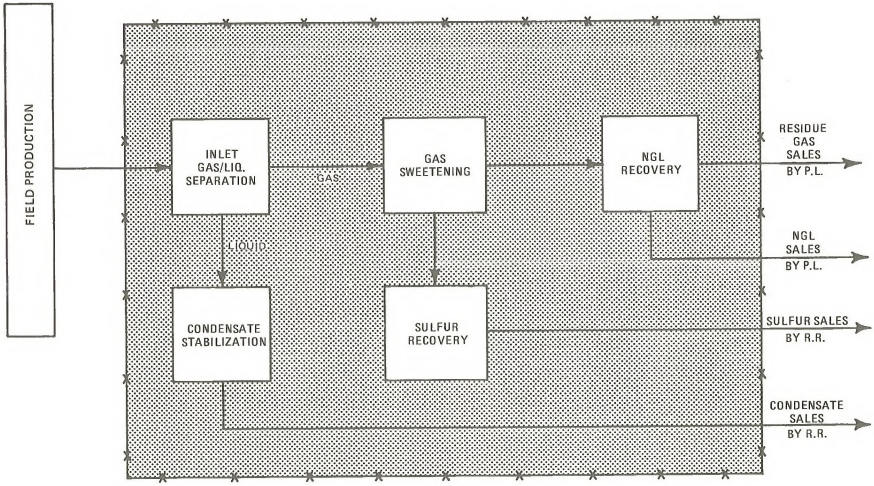


FIGURE I-2
CHEVRON PROCESS SYSTEM

WHITNEY CANYON PRODUCTION FACILITIES
UINTA COUNTY, WYOMING



WHITNEY CANYON PLANT

FIGURE I-3
WHITNEY CANYON PRODUCTION FACILITIES

Safety features have been incorporated into the design of the plants and associated facilities. These features would include automatic shutoff valves located within the plant and at the various well heads, and relief systems for emergency flaring should leaks, accidents, or other abnormal operations be encountered.

Chevron. The 477-acre plant site would be entirely on public lands on a plateau of the Bear River Divide, approximately 8,100 feet in elevation and about 1 1/2 miles east of a north-south oriented ridge. This facility (Map I-3) would be developed in three phases (Appendix 2), with Phases II and III scheduled for construction when and if required by increases in field production.

The facility is designed to ultimately process 420 million cubic feet (mmcf) of sour gas and 100 mmcf of sweet natural gas daily from wells in the vicinity. The initial Phase I gas processing would be approximately 140 mmcf daily with a sales yield of approximately 97 mmcf per day. Initial sulfur production would be 1,000 short tons per day. Production could increase or decrease, depending upon field development success and H_2S concentrations in the well gas.

The estimated water requirements for the Phase I plant would be 150 acre-feet per year in 1980, 300 acre-feet per year in 1981, and 450 acre-feet per year in 1982. Water requirements would increase by an estimated 450 acre-feet per year in 1983 if the Phase II plant addition would be needed, and by an estimated 450 acre-feet in 1985 if the Phase III plant addition would be required. Water would be taken from Woodruff Narrows Reservoir (Map I-2) if sufficient water rights could be obtained.

Chevron plans to inject waste water into aquifers at more than 4,000 and 11,000 feet, which should satisfy the requirements of the Environmental Protection Agency (EPA) and Wyoming Department of Environmental Quality (DEQ). The chemical composition of waste water to be injected would vary with the amount of plant and sulfur storage area runoff in the composite stream. Maximum solids concentrations in the waste water would occur during dry periods. Table I-2 shows the estimated chemical composition of the water during those periods.

Map I-3 shows the planned arrangement of the Chevron facilities at the gas processing plant site. About 182 acres of the site would be fenced, and process equipment would cover about 40 acres of the site. The site would be graded to provide level, terraced areas and to employ zero surface runoff. The facilities also would include a runoff water retention pond, waste water treatment facilities, emergency storage facilities for sulfur and liquid products, a 200-foot tail gas plant stack, an electric power substation, and auxiliary and administrative facilities. The latter would include a fire station, shop, warehouse, garage, and office buildings, as well as living quarters for use by operating personnel during inclement weather and for use by contract personnel during short maintenance shutdowns. The site also would contain all material laydown areas, construction and permanent parking areas, and vehicle turnaround areas.

Amoco. The 125-acre plant site would be located entirely on private land on the Bear River Divide at approximately 8,000 feet in elevation.

The plant is designed to process 250 mmcf of sweet and sour gas (see Glossary) per day. The daily production would be 5,000 barrels of condensate; 1,288 short tons of sulfur; 10,000 barrels of natural gas liquids (ngl), and approximately 180 mmcf of saleable natural gas.

Water needed by this facility is estimated at 97 acre-feet per year. Water requirements for the two plants differ because each would employ different processing methods. The water would be obtained from an existing well located approximately one-half mile west of the plant site. Amoco would inject approximately 140 gpm of waste water with chemical properties similar to the Chevron proposal (Table I-2) into underground aquifers.

Map I-4 shows the proposed location of the Amoco processing plant site in Section 17. The various facilities within the site would be similar to those proposed by Chevron. Major differences would be Amoco's proposed 175-foot tail gas stack and inclusion of major storage facilities at the processing site rather than the loadout facility.

Storage and Loadout Facilities

Chevron. The majority of Chevron's storage and loading facilities would be in the northwest quarter of Section 24, with portions in the adjacent corners of Sections 23, 25, and 26, T. 18 N., R. 120 W. (Map I-2 and Photo I-3). The proposed arrangement of the facilities is shown on Map I-5. The site would encompass 241 acres, including about 92 fenced acres. The rail and truck loading facilities, sulfur and hydrocarbon product storage and handling facilities, boiler facilities, water treatment facilities, and an operations maintenance building would be fenced. Product storage would be provided in the event of transport or market interruptions. The site would be graded with

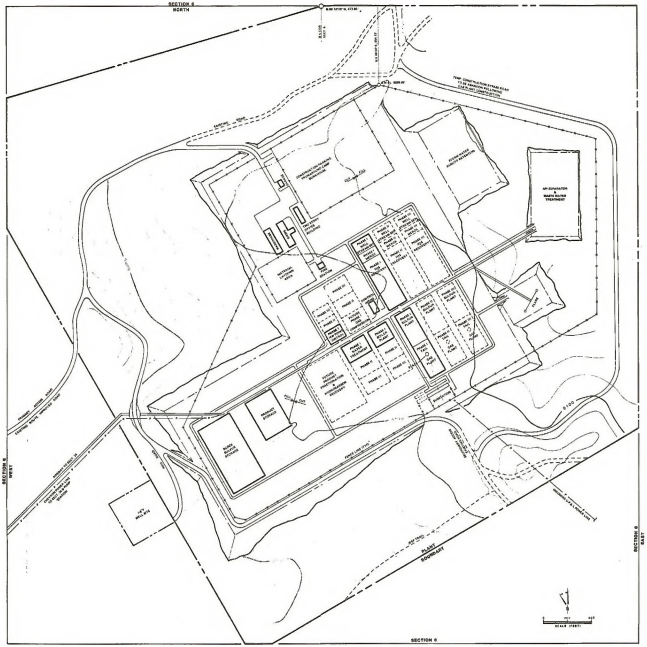
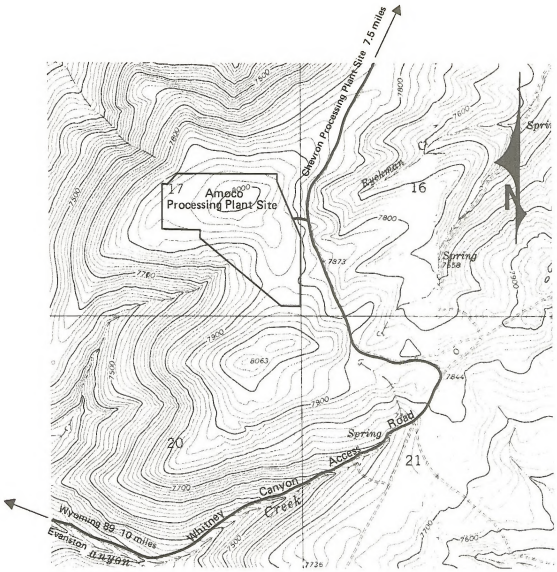

SECTION 6
NORTH
SECTION 6
WEST
SECTION 6
EAST
SECTION 6
ALASKA
HIGHWAY
AIR SEPARATION
WASTE WATER
TREATMENT
ALASKA
HIGHWAY
ALASKA
HIGHWAY
ALASKA
HIGHWAY

Table I-2

ESTIMATED MAXIMUM CONCENTRATIONS OF DISSOLVED SOLIDS IN WASTE WATER FOR PROPOSED CHEVRON PLANT

Constituent	Concentration in Parts Per Million (ppm)
Sodium (Na)	3,400
Calcium (Ca) and Magnesium (Mg)	8,000
Chloride (Cl)	24,000
Sulfate (SO_4)	1,400
Alkalinity	160
Other Constituents	100
Total Dissolved Solids	43,000
pH	8-9

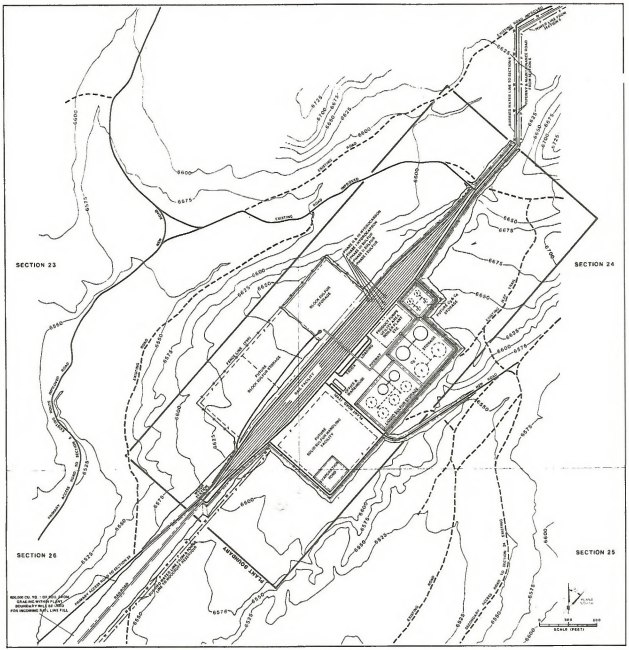
Source: Chevron U.S.A., Inc., 1980.



MAP I-4
AMOCO NATURAL GAS PROCESSING FACILITY

Photo I-3. Looking northeast, Chevron's storage and loadout site would be located on the middle ground shown in this photo. The drill rig located on the far left ridge (arrow) would be the site of Chevron's gas processing plant.

Photo I-4. Amoco's loadout site would be in the right background (arrow) from the junction of the proposed Amoco and Chevron railroad spurs.



MAP I-5
CHEVRON STORAGE AND LOADOUT FACILITY

heavy earthmoving equipment to accommodate the necessary rail trackage and the storage, loadout, and associated structures.

Amoco. Only emergency storage facilities are proposed at the Amoco loadout site, which would be located on approximately 96 acres in Sections 5, 6, 7, and 8, T. 17 N., R. 119 W. (Map I-2 and Photo I-4). The construction procedures would be similar to those planned by Chevron; Amoco does not anticipate fencing its site.

Interconnecting Facility Corridors

Both companies would require various ancillary facilities (see Glossary) which would connect the processing plants with the loadout sites. Each 100-foot-wide ROW (Photos I-5 and I-6) would contain a 6-inch molten sulfur pipeline, 41.6 kilovolt (kv) powerline, a buried telephone line, a water line, various 2-inch instrument air lines, a 2-inch fuel gas line, and a minimum 12-foot-wide service road needed for anticipated biannual maintenance of the sulfur pipeline. Both companies anticipate controlling vehicular access on the maintenance roads because of the relatively steep topography and erosion potential in both of the corridors and the potential safety hazard from a vehicle damaging the above-ground installations.

The molten sulfur pipelines would consist of a steam and insulation-jacketed pipe with an overall diameter of 10 inches that would be placed above ground on still H-frame type supports. The pipeline would not normally exceed 3 feet above the ground level.

Discrete operations (see Glossary) for pipelines, powerlines, telephone lines, and service roads such as those which would be constructed in these corridors are described in the Kemmerer Resource Area Oil and Gas Leasing EAR (Kemmerer EAR, Chapter I and Appendix I). Copies of that EAR are available for review in the BLM Rock Springs District Office and Kemmerer Resource Area Office.

Railroad

Railroad service to the immediate area of the processing plants would be necessary because of the large amount of sulfur to be transported and the technological limitations involved in transporting molten sulfur long distances by pipeline or other means. Initial production from both plants would be approximately 2,288 short tons per day, or an estimated 30 railroad cars. The production level could reach 4,965 short tons (62 railroad cars) per day with the Phase II and Phase III construction at the Chevron facility and would require one train service per day.

Map A3-1 and Photos A3-1 through A3-28 show the proposed railroad route and the various types of terrain involved (Appendix 3). The proposed 200-foot right-of-way for the railroad would begin at Union Pacific Railroad's present Oregon Short Line near Sage Junction and run for approximately 28.6 miles in a southerly direction. At that point, branch spurs of 4.8 and 1.8 miles would service the Amoco and Chevron loadout facilities, respectively (Table I-1). The new trackage would be built by or for the Union Pacific Railroad.

Discrete construction operations would include centerline and slope staking by a surveying crew, clearing and topsoil removal; building of the subgrade with scrapers and other earthmoving equipment; laying of suitable sub-ballast material on the subgrade; laying track; final ballasting; and operation and maintenance of the railroad.

Airstrip

Chevron proposes construction a 6,550-foot-long, 75-foot-wide airstrip in the north half of Section 14 and the northwest quarter of Section 13, T. 13 N., R. 119 W. A 100-foot wide ROW would be required for the airstrip (Table I-1). A small waiting room would be constructed at the west end of the airstrip. This facility would serve light fixed-wing aircraft carrying technical and supervisory personnel, and it would provide a means of safe, quick transport of sick or injured personnel in the event of an accident or other emergency.

The airstrip would be surfaced with asphalt. Construction would include centerline and slope stake surveying, clearing and removal of the topsoil, subgrade construction requiring the use of scrapers and other earthmoving equipment, laying of a gravel sub-base, and asphalt surfacing. The waiting room building would be a modular structure which would be brought to the site on a flatbed truck and placed on a suitable concrete foundation.

Access Roads

Access to the Amoco facilities and Chevron's storage and loadout site would be by existing all-weather roads from a junction with U.S. 89 located approximately 7.2 miles north of Evanston. Primary access to Chevron's processing plant would entail construction of 5.8 miles of new 30-foot-wide running surface, all-weather road which would connect the storage and loadout site with the processing facilities. Existing access to the Chevron plant site is via the Bear River Divide road. The locations of these access roads are shown on Map I-2. Discrete oper-

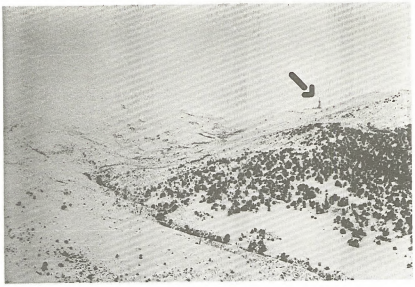


Photo I-5. Chevron's interconnecting facility corridor would start at the drill rig (arrow) and follow the drainage shown here to the company's storage and loadout site.

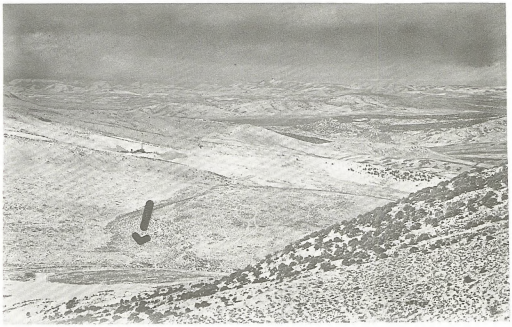


Photo I-6. This view is along the approximate route of the Amoco interconnecting facility corridor. This photo was taken from Amoco's proposed gas processing site, looking toward the proposed Amoco storage and loadout site (arrow).

ations for the existing and new access roads of this type are discussed in the Kemmerer EAR (Appendix I).

Primary Electric Powerlines

Approximately 12.6 miles of 138-kv powerlines would be constructed to supply electricity to both facilities (Map I-2 and Photo I-7). The new powerlines would be constructed by Utah Power and Light Co. as an extension of those lines presently servicing Amoco's Ryckman Creek natural gas processing facilities (Section 13, T. 17 N., R. 119 W.). The discrete operations for the proposed lines are described in the Kemmerer EAR (Appendix I) and the Ryckman Creek powerline EA (No. WY-042-EA8-76, on file in the BLM Kemmerer Resource Area Office), which was prepared for the powerlines now servicing the Ryckman Creek facilities.

Well Production Gathering Lines

An estimated 14.1 miles of well production gathering lines would be needed by Chevron, and Amoco estimates 10.7 miles of lines to transport well gas to the respective processing facilities. The actual amount and size of these pipelines would be dependent upon field development and well locations. These pipelines would be of a special alloy steel which is corrosive resistant. Discrete operations of pipeline construction, operation, and maintenance are described in the Kemmerer EAR (Appendix I).

Construction Methods and Schedules

Construction and operations schedules for Chevron and Amoco are shown in Appendix 2 of this EA. The estimated peak construction workforce would be an estimated 1,110 workers for Chevron and 500 workers for Amoco,with seasonal variations anticipated. Figure I-4 shows the individual company variations with the peak construction workforce for both projects expected in August 1981. Construction would continue through the four seasons; although on-site construction during the winter would be minimal where practical, particularly until buildings have been erected and work could continue inside. Amoco estimates 26 months to construct its proposed facility, and Chevron anticipates 27 months to complete Phase I and an additional 26 months each for Phases II and III should they be built and the required workforce is available.

Construction work is anticipated at five 10-hour shifts per week, with 30-minute lunch breaks. Bus transportation would be provided from the camps to the construction sites and back to the camps. The bus rides to and from the camps would be an additional 1 hour, and there would be an additional 1 hour each for breakfast and dinner.

Both companies would develop self-sufficient construction camps on private lands (Map I-2, Table I-1, and Photos I-8 and I-9) to accommodate the workforce necessary for the construction of the proposed facilities. These camps would include singles-only living quarters and dining and recreational facilities provided at no cost of the employee. Each camp would have its ownwater system, sewer system, first aid station, and security force. Chevron proposes to build a construction camp to accommodate 1,000 single construction workers, while Amoco proposes to accommodate 500.

Trailer courts would be developed near or in Evanston by the companies, and that housing would be available to the permanent operations and maintenance personnel following completion of construction. Chevron proposes to build two trailer courts that would have a total of 267 units for married construction workers. Amoco is proposing the construction of one 55-unit trailer court that would be used primarily for supervisory construction personnel.

Trailer court and construction camp modular units similar to mobile homes would be transported to the sites via I-80 through Evanston and along U.S. 89.

Construction Facilities. Other facilities needed during the construction phase would be field construction offices; warehouse and combination shops; laydown areas for piping, electrical supplies, and heavy equipment; cement batch plant (Amoco only); material storage areas; and construction parking. Construction would require earthmoving equipment; concrete hauling equipment; cranes; rigging equipment; welding equipment; trucks; and other vehicles. Permanent and temporary roads inside the construction areas would be built and surfaced with asphalt or gravel. Adequate fire protection systems and equipment would be available during the construction phase.

The companies propose transporting the equipment and material needed for construction primarily by way of U.S. 189 (Map I-2). Materials coming by truck from Interstate 80 would use U.S. 189 north to the Dee Ranch Road (BLM No. 4305), then about 14 miles west on the Dee Ranch Road and other existing improved roads (Map I-2) to the various construction sites. Equipment and material transported by rail would be loaded onto trucks at an existing rail spur siding near Kemmerer. The trucks would take those loads approximately 16 miles south on U.S. 189 to the Dee Ranch Road junction, then west on the Dee Ranch Road and other existing roads (Map I-2).

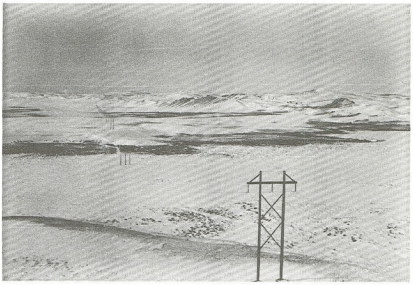


Photo I-7. Approximately 12.6 miles of 138-kilovolt powerlines, such as the one depicted above, would be constructed to supply electrical power to both facilities.

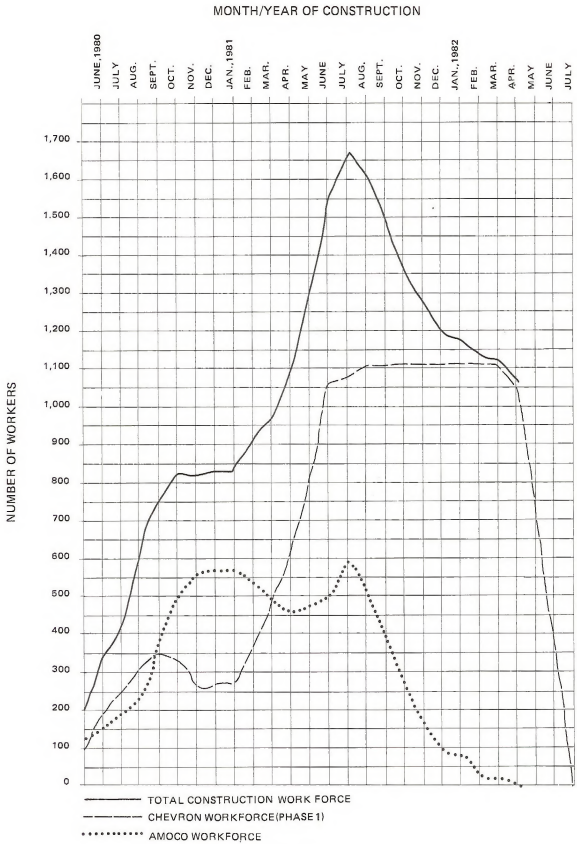


FIGURE I-4
WHITNEY CANYON AND CARTER CREEK GAS PROCESSING PLANTS CONSTRUCTION WORK FORCES

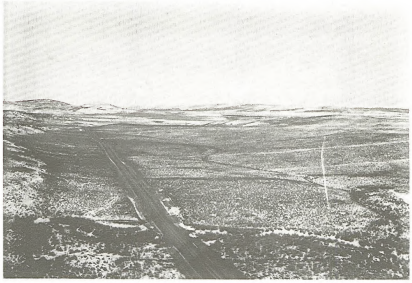


Photo I-8. Chevron's construction camp would occupy this site located about 10 road miles north of Evanston. The camp would include living quarters and dining facilities, and it would be self-sufficient.

Photo I-9. This is the site of Amoco's construction camp. Like Chevron's camp, it would be self-sufficient.

Local Relationships. Both companies have indicated they would cooperate with local governments in solving the socioeconomic problems associated with the construction of these plants. In April 1980 Amoco gave grants of $400,000 to Uinta County School District No. 1, Evanston, and $100,000 to the City of Evanston for law enforcement needs; and Chevron committed $500,000 in grants to Uinta County, to be delivered at the time construction begins. The Chevron grants would include $300,000 to School District No. 1; $65,000 to the Sheriff's Department; $100,000 to Uinta Memorial Hospital for equipment facilities, and improvements; $30,000 to the hospital for a 4-wheel drive ambulance; and $5,000 to the Western Wyoming Mental Health Association.

Permanent Operations

About 69 and 120 operating and maintenance personnel would be required for the Amoco and Chevron facilities, respectively. The normal operations would be on a 24 hours per day, 7 days per week basis. Chevron would provide bus service to and from Evanston during normal operations of its plant. Both plants would have first aid stations and ambulances in case of an emergency.

Marketing

The processed natural gas produced by these facilities would be transported to markets by a pipeline system or systems that would collect gas from the Colorado-Utah-Wyoming area. The natural gas that would be produced by these proposed plants is estimated to be of sufficient quantity to heat 800,000 homes daily.

Amoco has indicated it would sell its marketable natural gas to the Natural Gas Pipeline Co. Natural Gas Pipeline Co. would market gas in the Midwest through the proposed Trailblazer pipeline. To date, Chevron has not indicated to whom it would sell its products from the proposed facilities.

Stabilized liquid hydrocarbons (see Glossary) would be shipped by rail or pipeline to various refineries. Utah and Wyoming would be potential markets.

Sulfur produced by the proposed facilities could be shipped by rail to markets in the Pacific Northwest, East, and South. Sulfur is used in the production of sulfuric acid, paper, and fertilizers, and to vulcanize rubber. Currently sulfur is being tested for use as a tar substitute or extender in asphalt.

Authorizing Actions

Federal

Bureau of Land Management. BLM would be responsible for the following actions:

1. The BLM Wyoming State Office is responsible for issuing ROW grants for the construction and operation of various facilities on or across public lands that would be associated with these plants (storage and load-out sites, pipelines, electrical powerlines, access roads, railroads, Chevron plant site, etc.). The BLM Utah State Office is responsible for issuing ROW grants on proposed railroad in Utah. Issuance of ROWs on public lands are authorized under Section 28 of the Mineral Leasing Act of 1920 as amended (30 U.S.C. 185) and under Title V of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (P.L. 94-579, 90 Stat. 2743 et seq).

2. The Kemmerer Resource Area Office of the Rock Springs District would issue an undetermined number of temporary use permits (TUP) for temporary work and storage sites.

3. The Kemmerer Resource Area Office would issue an undetermined number of non-competitive (negotiated) sales of mineral material (commercial fill, sand and gravel, and other surfacing material or common variety of construction material). Issuance of non-competitive sales are authorized under 43 Code of Federal Regulations (CFR) 3611.

The Bureau is responsible for coordinating the preparation of ROW stipulations by Federal agencies to ensure consistency where possible.

U.S. Geological Survey (GS). Operations on a Federal lease are administered by the Conservation Division of the GS. The division of responsibilities between the GS and BLM for oil and gas leasing and operations on a lease is set forth by the Secretary of the Interior in Secretarial Order No. 2948, October 6, 1972. Implementation of that order is further explained in the Department's Cooperative Procedure Agreement of August 6, 1975. The GS requires operators to file for approval a suitable plan for operation prior to undertaking any new construction, reconstruction, or alteration of facilities which would result in additional surface disturbance within the area of operations (AO); all surface uses outside the limits of established AOs are the responsibility of the BLM.

The Cooperative Procedure Agreement establishes GS as the Secretary's expertise for conservation of the mineral resource, production, rentals, and royalties on producing leases. The AO concept does not alter the

responsibilities of the GS and BLM; it establishes the point of contact for the two agencies.

Fish and Wildlife Service (FWS). Coordination is required with the U.S. Fish and Wildlife Service in the following environmental circumstances:

1. Fish and Wildlife Coordination Act (16 U.S.C. Sec. 661 et seq.) when a proposed or carried out action would or could involve navigable waters and a fish and wildlife resource.

2. Bald and Golden Eagle Act of 1969 (16 U.S.C. 668-668c) when a proposed or carried out action would or could involve an eagle, its nest, and (or) its habitat.

3. Endangered Species Act (16 U.S.C. Sec. 1531) when a proposed or carried out action would or could involve an endangered/threatened species and (or) its habitat (Section 7 consultation).

Advisory Council on Historic Preservation (ACHP). Section 106 of the National Historic Preservation Act of 1966 as amended (16 U.S.C. Sec. 470 et seq.) requires that the President's advisory council have an opportunity to comment on any undertaking which could affect cultural resources on, or eligible for inclusion on, the National Register of Historic Places.

Executive Order 11593, "Protection and Enhancement of the Cultural Environment," mandates that all Executive Branch agencies, bureaus, and offices: (1) compile an inventory of the cultural resources for which they are trustees; (2) nominate all eligible government properties for inclusion on the National Register of Historic Places; (3) preserve and protect the cultural resources for which they are trustees; and (4) insure that agency activities contribute to the preservation and protection of non-Federally owned cultural resources. The Council implements these regulations through procedures outlined in 36 CFR 800, "Protection of Historic and Cultural Properties."

BLM will require a cultural inventory prior to making a decision on any of the various rights-of-way and temporary use applications that involve surface disturbance activities to insure compliance with the National Historic Preservation Act. Consultation will be made with the State Historic Preservation Officer as applicable.

Interstate Commerce Commission (ICC). The Interstate Commerce Act (49 Stat. 543, 49 U.S.C. 1(18)) requires the prior approval from the Interstate Commerce Commission for the extension or new construction of a line of railroad or the abandonment of operation of a line of railroad. Exempted from this authority are spur, industrial team, switching, or side tracks located wholly within one state. Commission certification is based on a balancing of the relevant economic, technical, and environmental factors.

State of Wyoming

Department of Environmental Quality (DEQ). DEQ has authority relating to air quality, solid wastes, water quality, and land reclamation. The Land Quality Division responsibilities include permits and reclamation for material sales such as fill, sand, and gravel. The Air Quality Division issues permits to construct and permits to operate after approval of applications with regard to plans for monitoring and controlling air contaminants. (See Appendix 4 for permits to construct related to the companies' proposals.) The Water Quality Division issues permits to construct settling ponds and waste water systems, include ground water injection and disposal wells. The division also issues National Pollutant Discharge Elimination System permits for discharging waste water. The Solid Waste Division issues construction fill permits and industrial waste facility permits for solid waste disposal during construction and operation of facilities.

Commissioner of Public Lands. Utility lines, roads, and railroad spurs crossing State land would require easements from the Commissioner of Public Lands (Wyoming Statutes 36-7).

Wyoming State Engineer. The Wyoming State Engineer is responsible for the appropriation and administration of the water resources in Wyoming. Applications to appropriate water must be filed with the State Engineer prior to undertaking proposed water developments.

State Historic Preservation Officer (SHPO). The State liaison officer for the Advisory Council on Historic Preservation is consulted for compliance with Section 106 of the Historic Preservation Act of 1966. If an undertaking would cause damage or change in the quality of the character of a site, then the Council and SHPO will consult with the agency to either remove or mitigate the effect.

State Highway Department. The Wyoming Highway Department issues State "Permits to Access" for all roads to be constructed that connect into Commission (Highway Department) rights-of-way on State and U.S. highways. Permits for oversized and over weight loads are required for trucks using Wyoming highways.

Department of Fire Prevention and Electrical Safety. The Wyoming Department of Fire Prevention and Electrical safety has

primary responsibility for the approval of fire prevention and electrical systems in group living quarters in Wyoming. Living quarters and other structures in the construction camps must meet the standards as set forth by the Department.

Uinta County

The Uinta County Commissioners adopted an interim freeze resolution in December 1979 that requires permits for changes in land use until a zoning resolution is completed. The county would require permits for construction of facilities such as plants, railroads, pipelines, etc.

City of Evanston

Zoning permits would be required for trailer courts.

Assumptions and Analysis Guidelines

In this analysis it is assumed that the beneficial and adverse impacts discussed could occur on private and State lands as well as public lands. Some of the impacts not directly associated with public lands, such as socioeconomic impacts or impacts occurring on State or private lands, have been identified in this document. Mitigating measures may be identified to the communities, the State, or the private landowners, but no mandatory requirements can be made by BLM.

It is assumed for the purposes of this analysis that the marketable gas and liquid hydrocarbons would be sold to Natural Gas Pipeline Co. (natural gas) and MAPCO (liquid hydrocarbons). These pipeline transportation systems which serve the Green River Basin and the Utah-Wyoming portions of the Overthrust Belt will be analyzed in separate environmental documents. It is assumed that sulfur and stabilized liquid hydrocarbons will be shipped by rail to various buyers. Based on the information available at this time, it is assumed that no crude oil production would be associated with these plants.

It is assumed that the construction of various ancillary facilities (see Glossary) associated with the proposed plants, such as access roads, pipelines, and powerlines would have the same impacts as those discussed in the Kemmerer EAR for such facilities.

Those impacts that would be completely mitigated by the standard stipulations (Appendix 1 of this EA) are not considered to be cumulative impacts.

Alternatives

Except for the No Action Alternative, each of the alternatives considered below include the construction of the proposed natural gas processing plants, storage and loadout site(s), and other ancillary facilities. These various facilities would be constructed in the same manner and location as described in the proposed action, except where modified by the particular alternative.

No Action Alternative

The BLM would not issue any rights-of-way necessary for the proposed action, which virtually would prevent Chevron and Amoco from constructing their natural gas processing facilities. Because of the checkerboard land pattern of ownership (alternating sections of public and private lands), construction of linear rights-of-way (access roads, railroads, etc.) could not be accomplished entirely on private land.

The U.S. Government, under the Mining and Minerals Act of 1970 and the Mineral Leasing Act of 1920 as amended, encourages private enterprise to develop domestic mineral resources; therefore, a major program of the BLM has been the leasing and development of Federally-controlled oil and gas and the issuing of the necessary rights-of-way on public lands for these purposes. Gas processing plants and their ancillary facilities are essential in the production of commercial quality natural gas because it is necessary to remove toxic H_2S gas and other contaminants before the gas can be used in homes or for commercial purposes. The by-products of the gas processing--liquid hydrocarbons and elmental sulfur--also have commercial value. Not issuing the ROWs would affect the human environment by not allowing recovery of the oil and gas reserves in the Whitney Canyon and Carter Creek fields.

Chevron and Amoco have made major investments to develop the natural gas deposits in those fields. The companies cannot realize a return on those investments unless the gas processing plants are constructed.

It is anticipated that, under the proposed action, both gas processing plants would be under full production by 1984. At that time, Chevron would contribute $4 million in taxes per year to Uinta County, and the company's annual payroll for 120 employees would be about $2.5 million. Amoco would pay an estimated $3 million in taxes

and have an annual payroll of $1.8 million for 89 employees. This future income for Uinta County would not be realized should these plants not be built.

The no-action alternative would take out of production enough natural gas to heat more than 800,000 homes daily, as well as liquid hydrocarbons that would be used to produce enough gasoline and other liquid fuels to reduce this country's dependency on foreign oil imports by approximately 140,000 barrels per day.

Taking the above factors into consideration, no further detailed analysis of this alternative was made. The losses of income and energy production would make this alternative unreasonable, especially in light of this country's need to develop domestic energy resources.

Processing Plant Site Alternatives

Alternate sites for the processing plants were considered by the companies during site selection studies. Air quality and dispersion modeling was performed to show the constraints which prevention of significant deterioration (PSD) requirements would place on the facility and the selected site. The proposed sites appear to be the best sites as the result of those studies, their suitable topography, and their proximity to the Whitney Canyon and Carter Creek fields.

The air quality studies indicate that the processing facilities should be located on a ridge, rather than in a valley, to obtain sufficient emission dispersion characteristics and thus meet ambient air quality standards for the area without the necessity of extremely tall stacks. Chevron, for example, indicated it would have to install a 1,425-foot-high stack at one alternate site (the same area as the proposed storage and loading facility) to meet the dispersion criteria. Good dispersion characteristics are necessary to prevent toxic accumulations of H_2S in low-lying areas should accidental leaks occur.

The proposed sites are located near the respective fields. With the location of the gas wells being considered, the necessity of increased gathering lines, and the possible addition of compressor stations, the sites under the proposed action are the only reasonable locations.

No further detailed analysis of alternatives for plant sites was considered necessary because the alternatives were found to have significant impacts that could not be reasonably mitigated. No other alternatives to the proposed processing plant sites have been considered in detail in this analysis.

Storage and Loadout Site Alternatives

The companies have explored two alternate storage and loadout facility sites that would require the construction of molten sulfur pipeline for transporting the sulfur from the processing plants to the commonly-used storage and loadout facilities. Map I-6 shows the general routes of the pipelines and the locations of the sites as proposed under these alternatives.

Either of the proposed molten sulfur pipelines under these alternatives would make the line the longest of its type in the world. The longest existing line is 0.8 mile located in Canada.

The alternate pipelines would be 10 inches in diameter, electrically heated, and insulation-jacketed. The lines would be located 30 inches above ground on either "Y or "H"-type support structures.

Sage Junction Molten Sulfur Line Alternative

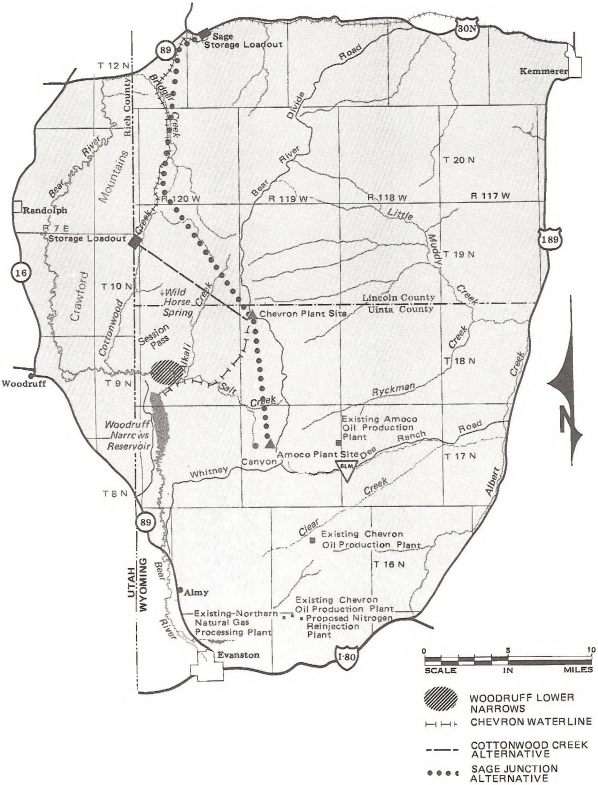
A 28.5-mile pipeline would connect the Amoco and Chevron plants with a storage and loadout facility at Sage Junction. This alternative would eliminate the need for the 35.2 miles of new railroad in the proposed action, as well as the individually proposed loadout and storage facilities, and Chevron's proposed primary access road. The storage and loadout facility at Sage Junction would be new construction, and it would shared by the companies.

Cottonwood Creek Molten Sulfur Line-Railroad Alternative

The other alternative would be to construct 15.6 miles of pipeline that would connect the Amoco and Chevron plants with a storage and loadout facility which would be built in Section 18, T. 19 N., R. 120 W. Thirteen miles of new railroad track would be constructed from the common storage and loadout facility with Union Pacific Railroad's Oregon Short Line. This alternative would eliminate the need for the individually proposed storage and loadout facilities, Chevron's proposed primary access road, and 19.6 miles of railroad. An access road would need to be developed from the plants to the common storage and loadout site.

Alternative Analysis

Chevron's proposed 3.3-mile molten sulfur pipeline would be pioneering new, unproven engineering techniques. The technological feasibility of 15.6- or 28.5-mile molten sulfur lines has been studied by the



MAP I-6

MOLTEN SULFUR PIPELINE & LOADOUT ALTERNATIVES

companies, and it is questionable. The availability from surrounding electrical companies of the extremely large amounts of electricity needed to maintain 290°F. temperatures of the piped molten sulfur also is questionable. For these reasons, no further detailed analysis was made. Should new information become available concerning the feasibility of these molten sulfur pipelines, futher consideration would be given in the ROW site-specific analysis of these alternatives to the proposed railroad route.

Railroad Route Alternatives

Several alternate railroad routes were considered in addition to the route described in the proposed action. Three of these routes are shown on Map I-7. An alternate route for that portion of the proposed route which is in Utah was considered; the route would go through the Woodruff Lower Narrows of Bear River, then north to Sage Junction. That route would keep the entire line in Wyoming, and shorten the trackage by 2 miles. Union Pacific Railroad explored modifications of the proposed route that would avoid the Woodruff Lower Narrows by going through either Sessions Pass or Wild Horse Springs. These routes were evaluated, but were determined to be unreasonable and due to the large amounts of coal and fills that would be required operational questionability. No further detailed analysis of the routes has been made in this EA.

Two major alternate routes, the Ridge and Evanston routes, were considered.

Ridge Route

This route would begin at Fossil (Map I-7) and run south and west, climbing to the Bear River Divide; then south along the Bear River Divide ridge to Chevron's gas processing facility. This would be approximately 22.6 miles of track, and Amoco's plant site would require an additional 8.5 miles of track along rough topography.

This route would cost $12 million more than the proposed route to service the Chevron facility, and significantly higher additional costs for the 8.5 miles to Amoco. Adverse operating conditions would occur when snows drift along the Bear River Divide. More numerous cuts to construct the railroad on an acceptable grade; the barrier these cuts would present to livestock movements; and the additional acres of disturbed surface were other factors considered in analyzing this route before dropping the alternative from further detailed consideration.

Evanston Route

This line would run north from Evanston, through the Bear River Valley and across the river, then generally east to the junction of spur routes which would service the loadout sites. This route would be approximately 24.8 miles from Evanston to the junction, and an additional 1.5 and 5.3 miles to the Chevron and Amoco loadout sites, respectively.

Other Facility Site and Route Alternatives

Because the impacts would be normally associated with the action (construction of pipelines, roads, powerlines, etc.) and not necessarily the location or the route on which the action takes place, alternatives for these proposed facilities are not addressed in this EA. That type of analysis would be on a site-specific basis and documented in supplemental EAs that would be prepared as individual rights-of-way are received and processed by the BLM.

Other Alternatives Considered

Among other alternatives considered, but dropped from further detailed analysis because of either their unreasonableness or technological infeasibility were:

1. Transport liquid hydrocarbons by truck.

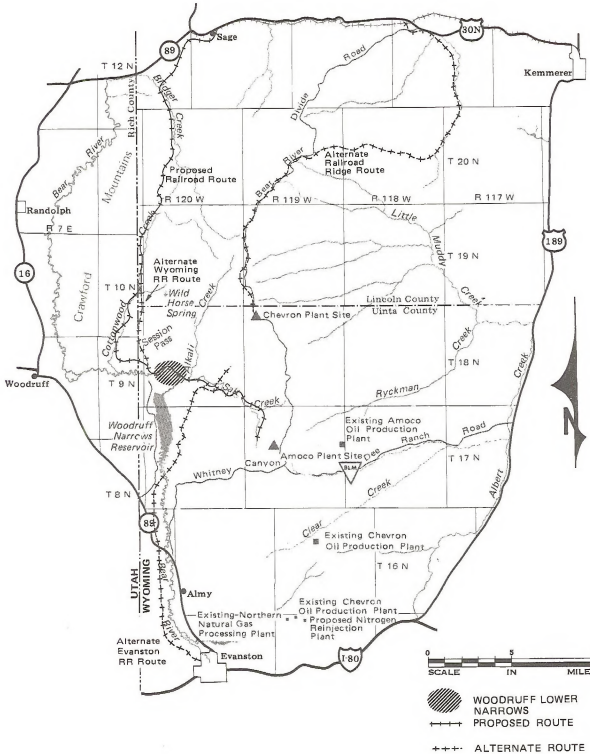
2. Transport sulfur by either truck or slurry pipeline.

3. Reinject of liquid hydrocarbons, stabilized condensates, or elemental sulfur back into the gas fields.

4. Ship the sulfur in powder or prilled (see Glossary) form.

Appropriate Mitigating Measures

Appendix 1 contains a list of standard BLM stipulations that would be applied to the various rights-of-way needed for the proposed facilities. These standard stipulations are considered part of the proposed action for the purposes of this environmental assessment. The stipulations normally are applied to ancillary facilities such as pipelines; pole powerlines and telephone lines; railroads; temporary use permits (TUPs); reservoirs, ditches, and canals; and buried cables.



MAP I-7
RAILROAD ROUTE ALTERNATIVES

Stipulations required in 43 CFR 2800, Rights-of-Way: General, and those mitigating measures identified in Chapter IV of the Kemmerer Resource Area Oil and Gas Leasing EAR also are included as mitigating measures for environmental impacts identified in this EA. Copies of the Kemmerer EAR are available for review in the BLM Rock Springs District and Kemmerer Resource Area offices.

CHAPTER II
AFFECTED ENVIRONMENT

The following descriptions of the affected environment supplement Chapter II of the Kemmerer Resource Area Oil and Gas Leasing Environmental Assessment Record (Kemmerer EAR), and both provide the bases for analyzing the impacts of the proposed action and alternatives being considered in this EA on the existing physical, biological, cultural, and human components of the environment.

Physical Environment

The area in and around the proposed sites is a region of low mountains and valleys (Kemmerer EAR, Chapter II-Geology and Topography), which is part of the Overthrust Belt. The area is semi-arid, and the prevailing winds are west-southwest through west-northwest (Kemmerer EAR, Chapter II-Climate). The area is on the Bear River Divide, with streams originating on the east side draining to the Green River and those on the west side to the Bear River (Kemmerer EAR, Chapter II-Water). Major drainages in and around the proposed projects include Whitney Canyon, Salt, Bridger, Twin, and Cottonwood Creeks that drain to the Bear River; and Carter, Sheep, and Ryckman Creeks that drain to the Little Muddy Creek, which is a sub-basin to the Green River.

Groundwater use has been primarily from existing springs for livestock and wildlife watering, especially late in the summer. Surface water in the Bear River Basin is used for the City of Evanston water supply and for irrigation and livestock watering; Green River Basin surface waters are used for municipal water supplies, industries, and some irrigation and livestock watering (Kemmerer EAR, Chapter II-Water).

The Overthrust Belt portion of the Kemmerer Resource Area is prone to landslides, including earthflow-slumps, rockfalls, rock avalanches, and blockslides (Kemmerer EAR, Chapter II-Geology). The proposed sites are in the moderate risk zone for earthquakes, but the Intermountain major seismic risk zone begins immediately west of the area in Utah and Idaho (Kemmerer EAR, Chapter II-Geology).

Gas containing toxic quantities of hydrogen sulfide (H_2S) is produced in the area, and H_2S may concentrate in low-lying areas and depressions (Kemmerer EAR, Chapter III-Air Quality). The hazardous level of H_2S (may cause death to wildlife and humans) is 250 parts per million (ppm); the lethal concentration is 600 ppm (Safety International, Inc.).

The area's air quality is generally good. Fugitive dust from natural sources and particulates from industrial operations, construction, and unpaved roads generally increase the ambient levels of total suspended particulates (TSP); however, no known violations of Federal and State TSP standards have occurred in the proposed site area (Kemmerer EAR, Chapter II-Air Quality).

The area is dominated by steeply sloping (15-35% slopes), shallow soils (Kemmerer EAR, Chapter II-Soils, Map II-1, and Table II-7). Appendix X of the Kemmerer EAR includes a detailed discussion of the soil associations. The dominant vegetation type in the area is sagebrush (Kemmerer EAR, Chapter II-Vegetation and Livestock Grazing, Table II-13, and Map II-2), with widely-scattered stands of aspen.

The historical land use of the area has been livestock grazing; however, oil and gas exploration and development has become increasingly important in recent years.

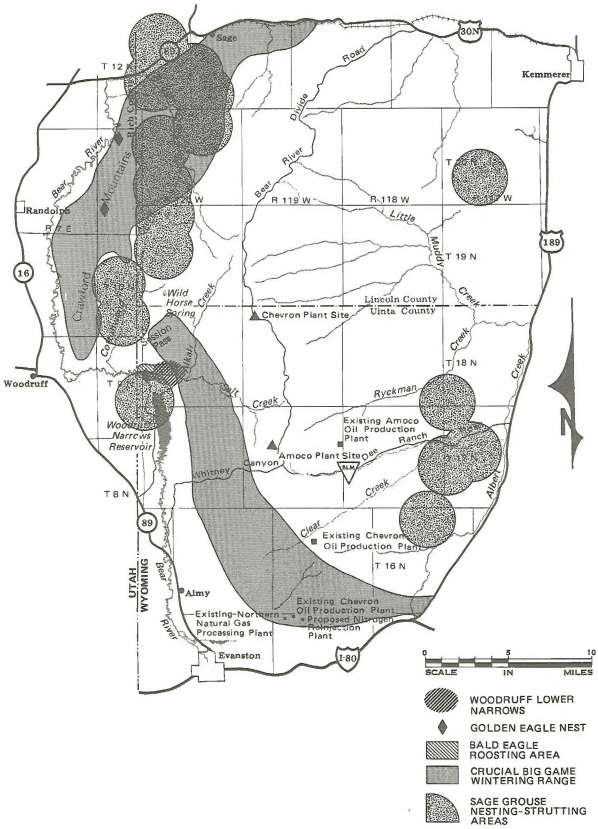
Terrestrial Wildlife

Since the printing of the Kemmerer EAR (May 1979), wildlife habitat data for the area have been updated by the Wyoming Game and Fish Department and the BLM. The following is based on the new data, and it reflects the wildlife situation where it differs from the Kemmerer EAR.

Big Game Crucial Habitat

Map II-1 illustrates that habitat which is recognized as being big game crucial wintering habitat. Depending on the severity of the winter and the conditions of the animals and the vegetation, the crucial period each year is normally October 15 through May 15.

The basins between the proposed plant sites and the Woodruff Narrows Reservoir are mule deer and pronghorn antelope crucial wintering ranges. Those basins contained an estimated 2,000 deer when an aerial count was conducted February 26, 1980. Approximately 150-250 antelope winter along the Utah-Wyoming border west of Woodruff Reservoir. The big game wintering complex, which is located from the Crawford Mountains southeast of Randolph, Utah (Map II-1) to the proposed Chevron storage-loadout facility, supports an estimated 5,000 to 7,000 deer during the wintering period. Based on limited aerial observations of these complexes, existing oil and gas activity in the Painter Reservoir



MAP II-1
IMPORTANT WILDLIFE AREAS

area appears to be displacing wintering animals from their normal range, which may result in increased pressure in the northern portions of their winter habitat area. Further disturbance, including oil and gas activity, would increase pressures on these northern wintering areas.

Sage Grouse Strutting/Nesting Complexes

The most important game bird in the area is the sage grouse. Map II-1 depicts presently-known nesting and strutting complexes. A complete survey for sage grouse will be conducted during the spring of 1980. These complexes are normally active from March 1 through June 15 of each year.

Threatened and Endangered Species

Federally-listed species which could occur in the area are the peregrine falcon (Falco peregrinus), the bald eagle (Haliaeetus leucocephalus), the black-footed ferret (Mustela nigripes). The BLM Rock Springs District wildlife biologists field-toured the area to determine if Federally-listed species may occur in the area. Section 7 consultation, as required by the Endangered Species Act of 1973, has been initiated with the U.S. Fish and Wildlife Service (FWS) concerning the bald eagle and black-footed ferret (Appendix 5).

The Woodruff Lower Narrows bald eagle roost (Map II-1) supports a wintering population of at least 60 eagles from November to April. Along with Jackson Canyon in central Wyoming, this is the largest bald eagle roost in Wyoming. In addition, the Woodruff Lower Narrows roost serves as a spring staging area during March and April for more than 200 bald eagles migrating northward, probably from Colorado, New Mexico, Utah, Arizona, and Wyoming.

Several factors probably contribute to the traditional use of the Woodruff Lower Narrows as an eagle roost. The cottonwood bottomlands along the Bear River serve as perching sites in a variety of climatic conditions. The western portion of the roost is unprotected from the weather and would serve as a fair weather roost. The eastern portion is surrounded by steep hillsides which protect the birds from high northern winds and extreme cold. The proposed railroad route would pass through that eastern area.

The Woodruff Lower Narrows roost is relatively isolated from human disturbance, especially during the winter when it is only accessible by snow machine or by foot.

Finally, the Woodruff Lower Narrows roost is adjacent to a major deer winter range which supports more than 2,000 wintering deer. Field examination of bald eagle castings revealed that winter-killed mule deer are the main food source for wintering eagles in the Woodruff Lower Narrows roost. The maintenance of high numbers of mule deer in the winter range is essential to the local and regional bald eagle population.

Peregrine falcons may occur as a migrant through the project area and not a nesting species. No active eyries have been identified in the area. Golden eagles are known to nest in the area (Map II-1). One nest occurs in the Woodruff Lower Narrows.

The skeletal remains of three black-footed ferrets have been found at the proposed South Haystack coal mine site, located 14 miles east of the Amoco plant site. Five unconfirmed black-footed ferret sightings were made from 1977 to 1979, four of them south of Woodruff, Utah, and 9 miles southwest of the Amoco plant site (Appendix 5). White-tailed prairie dog towns occur throughout the project area, which may indicate black-footed ferret habitat.

Aquatic Wildlife

Four stream habitats are related to the proposed action, especially the railroad line and pipeline features. These streams are Bridger Creek, Cottonwood Creek, Salt Creek, and the Bear River. The first three streams are reported to be intermittent due to natural low flows or the effects of irrigation water withdrawals. No yearlong resident fish have been reported to exist in these three streams; however, it may be assumed that seasonal significance (see Glossary) for nongame fish exists during periods of high flow or spring runoff. These streams are of secondary importance due to their erodible channels and sediment discharges during the runoff process.

The Bear River, on the other hand, is a stream of regional significance (Wyoming Game and Fish Department Class 3 and Glossary). Fish species sampled in the affected reaches of the river include Utah chubs (Gila atraria); Utah suckers (Catostomus ardens); mountain suckers (C. platyrhynchus); speckled dace (Rhinichthys osculus); longnose dace (R. cataractae); mottled sculpin (Cottus bairdi); redside shiners (Richardsonium balteatus); whitefish (Prosopium williamsoni); and brown trout (Salmo trutta).

The bluehead sucker (Catostomus discobolus); leatherside chub (Gila copei); and Bonneville cutthroat trout (Salmo clarki utah) are found in this river. All three are classified as rare by the Wyoming Game and Fish Department. The Bonneville cutthroat is

classified as sensitive by BLM and it is presently being considered for threatened status on the Federal list of threatened and endangered species (Federal Register, 20 March 1980, Vol. 45, No. 60, p. 19857).

Presently, extremes in flow conditions of the Bear River (due to the operation of the Woodruff Narrows dam and reservoir) and stream sedimentation, especially from intermittent streams such as the three above, pose the greatest limiting factors for fish in this stream and favor nongame fish species over game fish species.

Livestock Grazing

The Cumberland/Uinta Allotment (Map II-2) would be affected by the proposed action. It is a common allotment with 46 licensed operators and 459,302 acres of private, State, and public lands. The carrying capacity (see Glossary) averages 6.9 acres per animal unit month (AUM), and the allotment has a total of 66,690 AUMs (see Glossary). The season of use is generally from May 1 to November 15.

Two operators lamb 3,500 sheep in the area south of Sage Junction, and an estimated 20 operators drive and trail approximately 4,000 cattle through Whitney Canyon and Woodruff Lower Narrows (1,500). The areas of concern are shown on Map II-2. Whitney Canyon, Salt Creek, and the Woodruff Narrows have a steep, narrow topography.

The lambing areas historically have provided the necessary combination of forage, cover, and an environment relatively free from harassment (see Glossary). These areas are managed for lambing by controlling livestock use.

Cultural Resources

Inventories have not been completed on the entire project area. These inventories will be completed prior to construction on all lands affected by the project, including a buffer zone to identify sites which may be affected by secondary impacts (increased access to the area may cause more illegal collecting activities and vandalism). Any sites identified during this inventory will be evaluated and the State Historic Preservation Officer will be consulted pursuant to 367 CFR 800.4.

Prehistoric

As a result of recent energy developments in the Overthrust Belt a number of inventories have been conducted. Approximately 29,190 acres of the total Kemmerer Resource Area have been inventoried, or about 1% of the total area. A total of 129 sites have been located, indicating a site density of 0.35 sites per square mile. These inventories were concentrated in coal lease areas and other areas of intensive energy development. Many ecological zones remain unsurveyed, raising doubt about how representative these averages are of the entire Overthrust Belt. Nevertheless, nine prehistoric sites were identified in a 7,500-acre inventory in the general area of the proposed action, which would indicate an average of 1.3 sites per square mile.

Those sites identified in the inventory represent most of the prehistoric periods from 12,000 years before present to white European contact in the late 18th century. One archeological site is on the National Register of Historic Places and four others are eligible for nomination (Kemmerer EAR, Chapter II-Cultural Resources). None of these sites are within the project area.

Historic

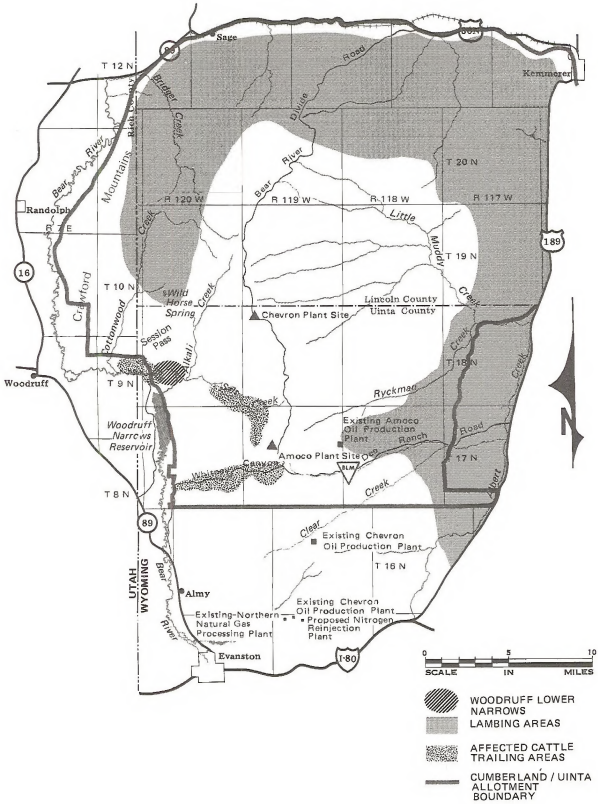
The western migration began in 1841. Trails followed by these immigrants lead to Oregon, California, and Utah. The magnitude of this immigration and the consistent use of established routes caused deep ruts in the landscape. As immigration subsided and the area became settled, these routes were used until other transportation routes were developed. Even today many of these routes are used as major access routes for hunting and other forms of recreation (Kemmerer EAR, Chapter II-Recreation). These two-track trails still possess the quality of the original transcontinental immigration. The Kemmerer EAR (Chapter II, Cultural Resources) identifies a portion of the Oregon Trail which crosses the general area of the proposed action and alternatives. The proposed railroad route shown on Map II-3 intersects the trail along Bridger Creek.

Visual Resources

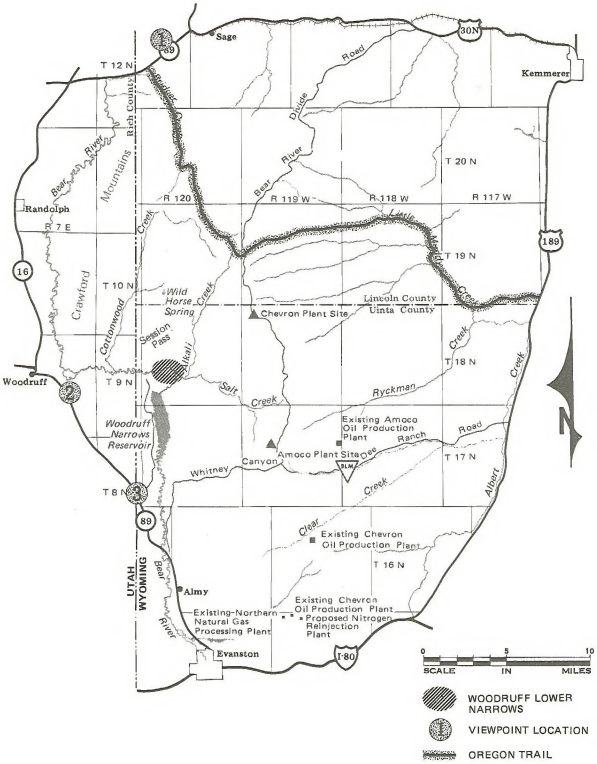
The northern portion of the railroad in proximity to U.S. 30 has been identified as VRM Class III. Basically sagebrush covered drainages with gently rolling hills, this area has been evaluated as Class III because of the volume of use through the area; i.e., U.S. 30. The Union Pacific railroad, powerlines, telephone lines, and fences also present intrusions in the area. About 7,500 acres of VRM Class III have been inventoried in the general area of the proposed projects.

The Class IV area where the various facilities would be primarily located is characterized by rolling, sagebrush-covered hills and moderately-steep, sagebrush- and mountain shrub-covered hills.

The visual contrast rating worksheets in Appendix 6 describe current texture, color, line, and form characteristics in the area.



MAP II-2
LIVESTOCK GRAZING CONCERNS



MAP II-3
AFFECTED CULTURAL & VISUAL RESOURCES

VRM classes represent the limits of modification an area could tolerate without significantly being impacted as determined through measurements using the BLM contrast rating (BLM Manual 8400). Class III is more stringent than Class IV.

Land Uses

County Planning and Zoning

The Uinta County Commissioners are working on a point-permit system zoning resolution which would regulate development deemed undesirable by the county. Presently the county has in force an interim freeze resolution which requires permits for changes in land use. That resolution will be used by the county until the zoning resolution is adopted.

Transportation Networks

Portions of U.S. 89 between the Evanston Minicipal Airport and the Utah-Wyoming state line were reconstructed in 1977. The remainder of Wyoming 89, which was built in the 1930's and is narrow, is scheduled for reconstruction by the Wyoming State Highway Department as soon as funds become available.

U.S. 189 between Interstate 80 and Kemmerer also was built in the 1930's. It, too, is a narrow road which is scheduled for reconstruction by the State Highway Department when funds become available, which is to be expected in about two years.

Socioeconomic Conditions

Rural Uinta County and the City of Evanston would be affected primarily by the proposed action. Secondary effects would be experienced by the communities adjacent to the Chevron and Amoco sites, including Kemmerer, rural Lincoln County, possibly Woodruff and Randolph in Rich County, Utah, and the economic sector between Evanston and Salt Lake City. Many of the secondary effects during the projects' construction phases would be to the economic areas surrounding Salt Lake City, Ogden, and Logan--sources for such basic commodities as building materials, goods, other supplies, and labor.

The affected environment discussed here will concentrate on Evanston and Uinta County, where the most direct and long-term changes would occur.

Population

In describing the present environment of oil and gas-incited growth in this area, there is some difficulty in measuring some growth parameters. Population figures, for example, vary, depending upon the base and the source of information (Table II-1). The discrepancies are obvious and projections into the future offer even greater differences. Table II-2 indicates a slowly growing population which is beginning to accelerate, as evidenced by 1979 population estimates of 12,837 for Uinta County and 7,450 for Evanston and the surrounding Bear River Valley. Stuart/Nichols Associates (1978a) attribute Uinta County's projected annual growth rate of 4.1% (10,150 in 1978 to more than 13,460 in 1985) to continued coal, oil, and gas activity, and further note that incorporated urban areas of the county would grow approximately twice the rate of unincorporated rural areas. The same firm (1978b) sees Lincoln County's annual growth rate as being 3.3% (11,200 in 1978 to more than 14,000 in 1985), with Kemmerer growing at almost twice that rate because of continued coal development.

Housing

The existing "tight" housing environment in the area is typical of energy boom growth: a limited supply of units, rising prices, little building construction completed, shortages of materials and labor, limited financing, and a lack of sufficient infrastructure (see Glossary). The vacancy rate in the two-county area is 2%, and it is virtually zero in the Evanston and Kemmerer areas. New construction cannot keep pace with demand and this is not expected to change for several years. Table II-3 indicates past and present housing characteristics for communities in the affected area, and Table II-4 shows present housing shortages as indicated by overcrowded units (see Glossary). Considering that an estimated 150 persons and/or families are residing in Evanston hotels and motels, (pers. comm., Farley 1980). Evanston probably has a current shortage of 185 units of housing (150 + 35 overcrowded units).

Developed land costs are beginning to exceed 25% of housing costs; exceeding 25% disqualifies the buyer of a house from Farmers Home Administration (FMHA) financing. The Lincoln-Uinta Association of governments (LUAG) estimates that stock-built housing construction costs at approximately $35-40 per square foot, and cites statistics that modular housing costs are similar due to high transportation and site preparation costs. Additionally, housing costs are beginning to exceed FMHA maximums for loans. Fewer and fewer families can find the financing and assistance necessary to purchase a house. As a result there is an intensive activity in the Veterans Administration (VA) and Wyoming Community Development Authority (WCDA) housing financing programs. People stand in line overnight at banks to receive new allotments

Table II-1

VARIATIONS IN CALENDAR YEAR
POPULATION ESTIMATES OR AFFECTED AREA

	1977 Abt 3/	1978 BBC 1/	1978 S/N 2/	1979 LUAG 4/
Uinta County	11,521	11,475	10,150	12,837
Evanston	5,918	5,300	5,200	6,311
Lyman	2,392	2,075	2,100	2,535
Mountain View	677	660	600	649
Rural	2,534	3,340	2,250	3,342
Lincoln County	7,132	N.A.	11,200	13,069
Kemmerer	3,655	N.A.	3,050	3,643
Diamondville	5/	N.A.	1,000	1,168
Rural	N.A.	N.A.	4,475	5,444

N.A. = Not Available from population figures in source.

1/ Bickert, Browne, Coddington, and Associates, 1979.

2/ Stuart/Nichols Associates, 1978a and 1978b.

3/ Abt Associates, 1978.

4/ Lincoln-Uinta Association of Governments, 1980.

5/ Included in Kemmerer Population.

Table II-2

SUMMARY OF POPULATION GROWTH FOR
UINTA COUNTY, EVANSTON, LYMAN, AND MOUNTAIN VIEW

Year-End	Uinta County	Evanston	Lyman	Mountain View
1970	7,256	4,481	680	550
1971	7,470	4,501	790	540
1972	7,810	4,557	930	530
1973	8,269	4,572	1,150	550
1974	9,257	4,710	1,670	610
1975	10,252	4,751	1,960	680
1976	10,525	4,831	1,710	600
1977	10,997	5,004	1,893	630
1978	11,475	5,300	2,075	660
1979	12,460	6,311[1/]	2,535	649

Source: The estimates for 1970 through 1976 are based upon the U.S. Bureau of the Census (1970). Estimates for 1977 and 1978 are based on Lincoln-Uinta Association of Governments housing counts as cited in Bickert, Browne, Coddington, and Associates, 1979. The 1979 estimates are based on Lincoln-Uinta Association of Governments (1980) housing counts and number of new building permits.

1/ Evanston and the surrounding Bear River Valley rural area totaled 7,448.

Table II-3

TYPE OF HOUSING UNITS 1973

	Single Family		Mobile Home		Multi-Family		
	No.	%	No.	%	No.	%	Total
Kemmerer/ Diamondville	615	67.4	209	22.9	88	9.7	912
Evanston	1,002	77.5	160	12.4	131	10.1	1,293
Lyman	134	54.7	102	41.6	9	3.7	245
Mountain View	128	64.3	67	33.7	4	2.0	199

Sources: April 1973 housing studies by Lincoln County Planning and Zoning Commission and Uinta County Planning and Zoning Commission.

TYPE OF HOUSING UNITS 1979

	Single Family		Mobile Home		Duplex		Multi-Family		
	No.	%	No.	%	No.	%	No.	%	Total
Kemmerer	684	58.1	280	23.8	14	1.2	200	16.9	1,178
Diamondville	166	43.3	204	53.3	2	0.5	11	2.9	383
Evanston	1,171	60.2	542[1/]	27.9	46	2.5	183	9.4	1,942
Mountain View	130	53.9	111	46.1	0	0	0	0	241
Lyman	232	35.6	401	61.7	2	0.4	15	2.3	650

Source: Data for Evanston is from the Evanston housing survey conducted by the Lincoln-Uinta Association of Governments (LUAG) during August and September 1979. For the other communities, the count was updated from building permit records, (LUAG 1980).

[1/] Includes 100 travel trailers in use as residences.

of WCDA funds, and VA's home loan operations in Colorado and Wyoming are the second largest in the U.S.

Nationally only 5% of American families can now afford to purchase a home--stock or modular (NBC News); and despite new programs, Evanston's situation is no better. Table II-3 indicates that the percentage of mobile homes in Evanston has more than doubled in the 6-year period from 1973 to 1979. Now travel trailers are being converted to residences. The Wyoming Department of Administration and Fiscal Control indicates that the cost of housing increased 11.5% in Evanston and 5% in Kemmerer between 1978 and 1979. A minimum-sized, factory-produced modular home is now $57,000, which includes a conservative $10,000 for lot purchase and site preparation and $8,000 for foundations.

Employment

Typical of a growth area, unemployment has been decreasing in (Evanston) Uinta County and Lincoln County (Kemmerer). Table II-5 shows unemployment trends in 1979. Sweetwater County, a former energy boom county, is used as a comparison. The table shows that unemployment in Sweetwater is stabilizing at about 3%--a figure that firtually affords everyone who wants to work a job. Yet Uinta County's unemployment rate shows a steady decline from approximately 3-4% to 1.5%. Lincoln County lags behind Uinta County, but generally shows decreasing unemployment approaching Sweetwater County's 3%. Clearly, new jobs would bring substantial outside population influx.

Wages are substantially increasing in Uinta County, especially in mining (see Glossary) and construction--the very areas which would be affected by these two projects. Table II-6 shows that mining wages in the county increased by 22% and construction wages increased by 56% from 1978 to 1979. An interesting trend also occurred in wages as they relate to Lincoln and Sweetwater Counties. For all quarters previous to the third quarter of 1979, Lincoln County showed equal or higher wages in all industries; then Uinta County moved ahead. This is an indication that Evanston and Uinta County have now become the new energy growth center in southwestern Wyoming, and competition for employees will drive average wages even higher in the area during 1980.

Table II-7 further shows the long-term trend in Uinta County employment and the bright economic picture. That the employment picture is changing rapidly is borne out by Table II-8, produced in 1978, showing mineralsindustry employee distribution in Uinta County--oil and gas is not even mentioned. Table II-9 indicates that growth in basic employment sectors is outstripping local service employment growth. This is common in "boom towns" and is responsible for increases in population in future years when it might otherwise be expected that population would stabilize.

Schools

Public school facilities in both counties are currently at or close to capacity. Uinta County School District #1 reports that all district facilities are either at or under the optimum capacity with the exception of Evanston High School. Optimum capacity is defined as 80% of highest estimated capacity for each building. Table II-10 summarizes each building in the District.

Public Service Agencies

The Kemmerer EAR (Chapter II-Socioeconomic Profile) discusses public service and facilities shortages, and it specifically notes police and fire protection service problems. In boom economies it is often the service sector which suffers as employees leave lower-paying jobs for higher-paying energy employment.

Health Services

Memorial Hospital in Evanston is the only short-term, special care hospital in the area; and, in 1978, its and other health service employees were over-taxed. (See Table II-11.) Wyoming Department of Economic Planning and Development health care statistics for 1978 indicate Uinta County has fewer health care practitioners per capita that the statewide average.

Table II-4

OVERCROWDED UNITS

Community	Number of Overcrowded Units	% of All Units
Kemmerer	52	4.4
Diamondville	13	3.3
Evanston	35	1.8
Lyman	9	1.3
Mountain View[1/]	13	5.3

Source: LUAG (1980).

[1/] In addition, 15% of Mountain View's units are substandard.

Table II-5

UNEMPLOYMENT TREND 1979

County/State	Unemployment Rate													
	(Dec.78)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Trend
Lincoln	(5.9)	6.7	6.6	6.8	5.7	4.0	4.5	3.8	3.5	2.9	3.6	4.6	6.4	-2.0%
Uinta	(2.8)	3.9	2.6	2.5	2.1	1.7	1.9	2.4	2.0	2.0	1.8	1.9	1.4	-2.5%
Sweetwater	(3.3)	3.2	2.6	2.3	2.9	2.5	2.9	2.8	3.1	2.7	2.7	2.9	2.8	Stable
Wyoming	(3.6)	4.0	3.3	3.0	2.8	2.2	2.5	2.4	2.4	2.3	2.2	3.0	3.4	-0.5%

Source: Wyoming Job Service

Table II-6

AVERAGE WEEKLY WAGE AND TREND

Industry	3rd Quarter 1979 1/			4th Quarter 1978 2/	
	Uinta Co.	Lincoln Co.	Sweetwater Co.	Uinta	% Chg from 3rd
Mining	$ 408.15	$ 397.83	$ 441.33	$333.23	+ 22%
Construction	442.31	308.82	417.83	268.84	+ 65%
Manufacturing	207.18	219.11	342.25	220.35	- 6%
Transportation/ Commerce/ Utilities	341.88	371.11	357.98	260.44	+ 31%
Wholesale Trade	266.27	217.00	297.39	261.34	-0-
Retail Trade	126.83	111.20	154.57	119.17	+ 6%
Finance/Insurance/ Real Estate	206.57	188.95	217.30	218.57	- 6%
Services with Agriculture/Forestry/ Fisheries	192.19	151.64	213.69	196.02	-0-
Public Administration	228.75	173.45	220.24	205.51	+ 11%

Source: State and County Summary of Covered Employment and Total Payrolls by Industry, Economic Statistics Division, Wyoming Department of Economic Planning and Development.

1/ As of 30 April 1980, this was the latest available quarter report from Rock Springs Job Service.

2/ Third Quarter 1978 was not available, but 2nd Quarter 1978 figures indicate that an interpolated figure would be very close to those 4th Quarter statistics.

Table II-7

UINTA COUNTY EMPLOYMENT

Year	Civilian Labor Force	Employment	Unemployment Rate
1970	2,700	2,500	5.6
1975	3,540	3,400	4.0
1976	3,642	3,476	4.6
1977	4,089	3,927	4.0
1978	4,552	4,400	3.3

Source: These annual average data were furnished by the Wyoming Employment Security Commission, December 1979.

Table II-8

UINTA COUNTY EMPLOYEE
RESIDENCY DISTRIBUTION-MINERALS INDUSTRY

Company	Evanston	Lyman	Mtn. View	Rural	Other (Out of County)
			COAL		
Rocky Mtn. Energy	55%	20%	7%	3%	Kemmerer, Diamondville
			PHOSPHATE		
Stauffer Chem. Co. (Lincoln County)	2%	-	-	-	Cokeville, Kemmerer, Diamondville
			POWER PLANT		
Utah P&L (Lincoln County)	2%	-	-	-	Cokeville, Kemmerer, Diamondville
			TRONA		
Allied Chem. Corp. (Sweetwater County)	-	10%	5%	5%	Green River, Rock Springs
Church & Dwight (Sweetwater County)	10%	7%	2%	2%	Green River, Rock Springs
FMC Corp. (Sweetwater County)	4%	10%	5%	1%	Green River, Rock Springs
Stauffer Chem. Co. (Sweetwater County)	-	1%	-	-	Green River, Rock Springs
Tenneco, Inc. (Sweetwater County)	-	10%	5%	10%	Green River, Rock Springs
Texasgulf, Inc. (Sweetwater County)	-	10%	5%	5%	Green River

Source: Stuart/Nichols Associates 1978a.

Table II-9

UINTA COUNTY BASIC AND LOCAL SERVICE EMPLOYMENT
FOR 1970 AND 1975 THROUGH 1978

	1970	1975	1976	1977	1978
Basic Employment Sectors:					
Agriculture	310	340	350	350	380
Mining	70	480	480	600	720
Construction	110	220	130	150	160
Manufacturing	40	100	110	120	100
Railroads	310	280	300	330	310
Trade	210	300	320	360	340
Services	130	160	170	170	450
Government	370	450	470	510	400
Subtotals	1,550	2,330	2,330	2,590	2,860
Local Service Employment Sectors:					
Construction	30	40	50	50	50
Manufacturing	20	40	40	50	40
Transportation, Communication and Public Utilities (except Railroad)	80	110	120	170	170
Trade 310	460	490	520	560	
Finance, Insurance, Real Estate	50	60	70	80	80
Services	50	60	70	70	100
Government	360	460	470	490	600
Other Non-Agricultural	190	260	270	270	230
Subtotals	1,090	1,490	1,580	1,700	1,830
TOTAL Employment	2,640	3,820	3,910	4,290	4,690
Local Service to Basic Ratio	.70	.64	.68	.66	.64

SOURCES: This table was developed by Bickert, Browne, Coddington, and Associates, 1979. The employment data was obtained from the Wyoming Employment Security Commission and was adjusted to reflect cross-country commuting patterns. The allocation of employment sectors into basic and local service categories is based upon: U.S. Bureau of the Census, 1970 Census of Population, General Social and Economic Characteristics, Wyoming, p. 155; U.S. Bureau of the Census, 1972 Census of Retail Trade, Wyoming, pp. 10-11; U.S. Bureau of the Census, County Business Patterns, 1973, Wyoming, pp. 32-33; unpublished 1975 Wyoming Employment Security Commission data by two and three digit SIC code, Bill Davis, October 13, 1976; interviews with local business persons, September 1976 and December 1977; the Lincoln-Uinta Association of Governments, Land Use and Housing Elements, January 1979; interviews with company officials, January 1979.

Table II-10

UINTA SCHOOL DISTRICT NO. 1 BUILDING CAPACITIES

Analysis of Building Capacity:	Capacity Based on Analysis of Identified Instructional Space (Regular and Special)	Capacity Based on Analysis of Total Space	Capacity Based on Stuart/Nichols Study	Maximum Capacity	Optimum Capacity	Current Enrollment 12/11/79	Current Enrollment Compared to Optimum Capacity
Evanston High School (9-12)	625	$\frac{71,270}{125} = 570.16$	400	600	450	365	-85 (Under Capacity)
Evanston Middle School (6-8)	440	$\frac{46,066.5}{100} = 460.67$	400	500	350	310	-40 (At Capacity)
Clark Elementary School (K-5)	500	$\frac{43,102.5}{75} = 574.7$	550	600	450	520	+70 (Over Capacity)
Brown Elementary School (K-4)	90	$\frac{6,322}{75} = 84.29$	100	100	75	120	+45 (Over Capacity)
East Elementary School (K-4)	90	$\frac{6,413}{75} = 85.51$	100	100	75	114	+39 (Over Capacity)

Source: 1980 Interim Evaluation Report, Administrative Services Division, Wyoming Department of Education.

Note: Optimum Capacity represents 80% of the highest estimated capacity for each building. The calculation of Optimum Capacity also represents a consideration of classroom capacity compared to capacity based on total school space. In addition, consideration must be given to the design and utilization of space in a given facility. For example: On the basis of available space, the Evanston Middle School can accommodate 440 to 500 students if classrooms are filled to capacity, if the shop area is scheduled with the maximum number of students, if each classroom is scheduled with students each period of the school day. One hundred percent utilization of such a facility is not reasonable in terms of the educational program; therefore, the Optimum Capacity of this facility is rated at 350 students. More students can be accommodated by any facility if emergency measures are implemented; i.e., high pupil-teacher ratio, extended day schedule, split sessions, limited curriculum, and other possible actions which are a detriment to a quality educational program.

Table II-11

HEALTH AND SOCIAL SERVICES: LINCOLN AND UINTA COUNTIES

Personnel Facilities	Lincoln County Number[1]	Lincoln County Ratio Per Population Increment	Uinta County Number[2]	Uinta County Ratio Per Population Increment	State Standard Ratio Per Population Increment[3]
Physicians	3	1:2,377	4	1:2,880	1:1,000
Nurses Employed					
Registered nurses	9	1:792	10	1:1,152	1:285
Licensed practical nurses	5	1:1,426	4	1:2,880	1:769
Public health nurses	1	1:7,132	1	1:11,521	1:7,660
	15		15		
Dentists	3	1:2,377	3	1:3,840	1:1,600
Optometrists	1	1:7,132	2	1:5,761	1:7,000
Hospitals	1	1:7,132	1[4]	1:11,521	1:19,944
Hospital beds	20	1:357	22	1:524	1:179
Ambulances	5	1:1,426	5	1:2,304	1:3,740
Emergency rooms	1	1:7,132	1	1:11,151	1:13,296
Mental health centers	1	1:7,132	1	1:11,151	1:12,397

Sources:

1/ Interview with Dr. Gayle Robinson, Administrator, South Lincoln Hospital, Kemmerer, January 1978. (Numbers reflect personnel and facilities associated with South Lincoln Hospital only; dentists and optometrists excepted.)

2/ Interview with Ms. Mary Emerson, Acting Administrator, Uinta Memorial Hospital, January 1978.

3/ Wyoming Division of Health and Medical Services 1977.

4/ Excluding Wyoming State Hospital, Evanston.

CHAPTER III
ENVIRONMENTAL CONSEQUENCES

Impacts of the Alternatives Including the Proposed Action

Impacts of the Proposed Action

An interdisciplinary team of resource specialists has analyzed the alternatives, including the proposed action, and determined that the proposals would affect the following resources and resource values: air quality; topography; soils; water resources; vegetation; terrestrial and aquatic wildlife; cultural resources; visual resources; recreation resources; livestock grazing; geology and mineral resources; land uses and transportation networks; and socioeconomic conditions. The following discussions are supplemental to the applicable impacts which are found in Chapter III of the Kemmerer Resource Area Oil and Gas Leasing Environmental Assessment Record (Kemmerer EAR). Copies of that EAR are available for review in the BLM Kemmerer Resource Area and Rock Springs District offices.

Air Quality

Using mathematical dispersion modeling methods, the State of Wyoming Department of Environmental Quality (DEQ) concluded that these proposed facilities would use the best available control technology (BACT). DEQ analysis indicated the plants would operate within allowable standards for Class II areas without violating the applicable criteria, and the operation of the plants would comply with all applicable air quality standards and regulations. Appendix 4 contains a summary of DEQ's analysis, including ground-level pollutant modeling results, used in making the above conclusion for both the Chevron and Amoco proposed natural gas processing plants.

Because of the highly toxic nature of hydrogen sulfide gas, there could be possible impacts on humans and animals should leaks develop in the well gas gathering systems. The probability of encountering leaks which would be hazardous or lethal to humans or wildlife cannot be quantified.

Topography

Topography would be modified by the construction of the various facilities that would be associated with these processing plants. Table III-1 lists those facilities that would have an appreciable impact on the existing topographic features and the approximate amount of earthwork that would be involved at these locations.

Construction of the processing plant facilities and the storage/loadout facilities should result in minor noticeable topographic changes due to the relatively flat to gently sloping terrain where these facilities are proposed to be located. The notable construction area of the proposed railroad is the Woodruff Lower Narrows of the Bear River, where it is estimated that maximum cut and fill slopes would be 30 feet and 40 feet, respectively. Notable new road construction would be Chevron's primary access route between the storage/loadout facility and the plant site; the road would be in the vicinity of the Pinnacle (Map II-2 and Table III-1).

Geology

Geologic Hazards. The production and loading facilities sites are not landslide prone, and the probability of damage to the facilities resulting from earthquake damage is low. Even though the earthquake activity in the region is relatively frequent, historic data indicates a low probability that earthquakes would exceed an intensity of VII on the Modified Mercalli Scale (see Glossary).

Mineral Resources. As a result of the proposed action, which includes Chevron's three phases of development, approximately 770 mmcf per day of nonrenewable natural gas resources would be processed and eventually consumed. An estimated 485,300 cubic yards (cy) of aggregate would be needed by these proposed projects (Table III-2). The majority of this material is expected to come from existing sources located primarily on private lands. New, undetermined sources also could be developed should suitable material and locations be found. The estimated 95,000 cy of ballast needed for the railroad would be shipped by rail from sources located outside of the area.

Soils

Due to the presence of shallow soils underlain by alkaline shale, any increases in precipitation runoff from areas such as plant sites and loadout facilities would result in accelerated erosion that cannot be quantified using various soil loss equations (Musgrave, USLE, etc.) with the data and information available at this time. Other impacts to soils are directly related to the estimated 1,824 acres of disturbance resulting from the removal of protective vegetation. Removal of the vegetation and cutting of slopes would expose soil and increase erosion.

Table III-1

ESTIMATED EARTHWORK IN CUBIC YARDS NEEDED
AT KEY CONSTRUCTION LOCATIONS

	Cut	Fill
Chevron		
Plant Site	1,370,000	1,180,000
Storage/Loadout[2/]	1,120,000	990,000
Access Road[1/]		
Amoco		
Plant Site	941,000	810,000
Storage/Loadout[2/]	876,000	775,000
Common Rail Trackage		
Woodruff Lower Narrows	22,000	22,000
TOTAL	4,329,000	3,777,000

1/ That portion of the primary access road between the proposed plant site and the storage/loadout facilities.

2/ Excess cut material would be used for railroad bed adjacent to and to the storage/loadout facility.

Table III-2

ESTIMATED QUANTITIES OF AGGREGATE IN CUBIC YARDS
NEEDED FOR THE PROPOSED AMOCO AND CHEVRON PROJECTS

	CUBIC YARDS
Concrete	
Amoco[1/]	30,000
Chevron[2/]	
Phase I	30,000
Phase II	25,000
Phase III	25,000
Access Roads	96,500
Plant Sites and Other Graveled Areas	
Amoco	25,500
Chevron	37,000
Storage/Loadout Roads and Other Graveled Areas	
Amoco	7,500
Chevron	18,800
Railroad[3/]	
Common Track	145,500
Amoco Spur	29,500
Chevron Spur	15,000
TOTAL	485,300

1/ From cement batch plant to be located on site and on private land.

2/ Obtained from existing contractor in Evanston.

3/ Estimated at 2,500 cubic yards/mile each of ballast and sub-ballast. Ballast (95,000 cubic yards) to be railed in from sources outside of area.

Water Resources

Surface Water. Based on current information, Chevron would secure water from the Woodruff Narrows Reservoir. Chevron estimates that 450 acre-feet per year would be needed for Phase I of the Carter Creek project (Table III-3). Should Phases II and III be constructed, an additional 1,260 acre-feet per year would be required. Chevron's request for 1,710 acre-feet would have a relatively insignificant effect (pers. comm. Stauffer 1980). Water use would become important during drought years when available water would be diverted according to the priority dates established in individual water permits. In addition, the Bear River Compact allocates the waters of the Bear River to the states of Idaho, Utah, and Wyoming. In the event of a water emergency--when the flow at the Utah-Wyoming state line south of Evanston is less than 1,250 cubic feet per second, Wyoming would be allocated approximately 59% of the available water. The extent of the impact during a drought year would depend on the priority date of Chevron's water right permits. The State of Utah Water Resources Board currently is enlarging the Woodruff Narrows Reservoir, and the storage capacity of the reservoir by the end of 1980 is anticipated to be 57,300 acre-feet (pers. comm. Stauffer 1980). Current capacity of the reservoir is 28,000 acre-feet.

The proposed railroad route would infringe on the flood plains (see Glossary) ofBear River, Salt Creek, Cottonwood Creek, Alkali Creek, Bridger Creek, and Twin Creek, which would require channel modifications that could result in accelerate channel erosion (Kemmerer EAR, Chapter III-Water, Erosion and Sediment Yield). Modification of the flood plains would reduce the effective area of high water reaches. The diking effects that would be produced would reduce the beneficial functions of the flood plains, such as temporary storage of excess waters, regulation of streamflow, and support for a wide variety of biological and physical systems.

Percent increases in sediment yield cannot be quantified due to a lack of existing sediment yield data (Kemmerer EAR, Chapter III-Water, Erosion and Sediment Yield). Road construction would increase soil erosion and sediment yield within the area; the amount due to construction would be dependent upon the slope of the terrain, erodibility of the soil, and position within the watershed.

Quantitative data on the increases in salinity due to accelerated erosion are not available for the area.

Groundwater. Amoco has developed a well that would supply its processing plant with the estimated 97 acre-feet per year needed for production purposes. In addition, it is estimated that during the peak construction period the total water demand of the construction camps would be 61 acre-feet for 1981 (Table III-3). This water would be obtained from wells drilled at the construction camp sites.

Both companies anticipate injecting waste water into deep well with aquifers being considered at the 4,000-feet-plus and 11,000-feet-plus levels. It is anticipated that these would meet the requirements of DEQ injection control program. Amoco estimates that 140 gpm of waste water would be injected, and it is estimated that Chevron would inject 190 gpm should all three phases of the plant be developed. The major impact to groundwater resources would be associated with injecting waste water into underground aquifers and the possible contamination of adjacent aquifers. This contamination could result from leaks in the well casings or fractures in the associated geologic formations.

Vegetation

Based upon the analysis presented in Table I-1, a total of approximately 1,824 acres would be disturbed during the construction of these facilities. Approximately 1,026 acres would be permanently occupied by the various facilities for the project life of the plants (estimated to be 50 years), and that acreage represents the long-term impact. After the construction period approximately 800 acres would be rehabilitated. Successful revegetation of plant cover for those areas would occur within 5 years after rehabilitation began, with vegetative productivity reaching predisturbance levels within approximately 10 years.

Terrestrial Wildlife

Big Game. An estimated 533 acres of big game crucial wintering habitat (see Glossary) would be physically lost through the construction of various facilities associated with the proposed plants (Table III-4). The crucial habitat where these losses would occur has become more important in recent years due to the apparent displacement wintering deer from the Painter Reservoir oil and gas area located south of Whitney Canyon.

Long-term impact to big game crucial habitat is estimated to be the loss of 323 acres (Table III-4). This figure represents the approximate acreage that would be occupied by the various facilities that would be located in this crucial habitat.

Table III-3

ESTIMATED WATER CONSUMPTION BY PROPOSED PROJECT FACILITIES IN ACRE-FEET PER YEAR

	1980	1981	1982
Carter Creek Project (Chevron)			
Processing Facilities[1/]	150	300	450[2/]
Construction Camp[3/]	8	43	35
Whitney Canyon Project (Amoco)			
Processing Facilities[4/]	97	97	97
Construction Camp[3/]	8	18	-
TOTAL	266	458	582

1/ Source of water is assumed to be Woodruff Narrows Reservoir.

2/ Phase I of plant. Phases I, II, and III would require 1,710 acre-feet per year.

3/ Based on 50 gallons/person/day. Source of water would be wells to be located at the construction camps.

4/ Source of water would be a well that is located approximately one-half mile west of the plant site.

Table III-4

ACRES OF IMPORTANT WILDLIFE AREAS
LOST DUE TO PROPOSED ACTION

Facility	Big Game Crucial Wintering Habitat	Sage Grouse Nesting/ Strutting Complexes
Short Term (1980-1995)		
Railroad	304	337
New Access Roads	30	-
Chevron Storage/Loadout	150	-
Chevron Water Pipeline	9	1
Chevron Construction Camp	40	-
TOTAL	533	338
Long Term (1995-2030)		
Railroad	203	188
New Access Roads	28	-
Chevron Storage/Loadout	92	-
Chevron Water Pipeline	-	-
Chevron Construction Camp	-	-
TOTAL	323	188

Habitat loss in addition to the actual physical disturbance/occupation is anticipated. This would be a result of human activity primarily associated with the construction, operation, and maintenance of the Chevron storage/loadout facility, the primary access route for Chevron, and, during the short term, the construction camp. No attempt has been made to estimate these losses due to the numerous variables that contribute to this impact.

Sage Grouse. Table III-4 indicates that an estimated 338 acres of nine known sage grouse nesting/strutting complexes would be disturbed during construction of the railroad and Chevron water pipeline. Approximately 188 acres would be occupied by the railroad during the long term. Disturbance to the actual nesting/strutting sites cannot be determined and would have to be analyzed in the site-specific environmental assessment for the railroad right-of-way. More intensive sage grouse surveys that are planned for the spring of 1980 and prior to the site-specific analyses are expected to identify additional strutting grounds.

Threatened and Endangered Species. The cumulative impacts of the proposed railroad spur and the activities associated with the project facilities have the potential of making the Woodruff Narrows roost site unsuitable for wintering bald eagles. The increase in human activity in the area because of the construction of those facilities plus the location of the proposed railroad through the roosting area would result in harassment that would affect the use of the roost site by bald eagles. Stalmaster and Newman (1978) studied the effects of human disturbance on wintering eagles, and they made the following conclusions, which relate to the Woodriff Narrows:

1. A combination of audio and visual disturbance was the most disruptive.

2. Barriers which screen the disturbance from eagles were effective in reducing alarm or flight behavior. (No such barriers would exist between the proposed railroad and the trees in which the eagles roost.)

3. An activity restriction zone of at least 250 meters (820 feet) is necessary to effectively isolate the bald eagles from human disturbance.

Several studies on the causes of bald eagle mortality have concluded that illegal shooting is the single most important cause of mortality (Coon et al. 1970, Sprunt 1972).

The activities under the proposed action could affect the wintering deer population, which is the major food source for wintering eagles. Finally, the proposed construction of the railroad is anticipated to remove some cottonwoods which serve as necessary roosts and perching sites, and the operation of the proposed railroad would definitely cause some level of disturbance to roosting birds. Nancy Green of the BLM Bald Eagle Recover Team, Grand Junction, Colorado, states (pers. comm. 1980) that although bald eagles may tolerate a relatively high level of disturbance near their roosts, they probably would not tolerate a railroad immediately adjacent to the roost site.

Special concern would be given to protecting the endangered black-footed ferret, whose existence is linked to prairie dog populations. White-tailed prairie dog colonies occur throughout the project area and may indicate black-footed ferret habitat. Little is known of ferret biology or present distribution. Management is currently limited to the maintenance of prairie dog towns.

The BLM Rock Springs District Office has requested formal consultation with the Fish and Wildlife Service, per Section 7 of the Endangered Species Act of 1973, for bald eagles and black-footed ferrets (Appendix 5). Recommendations for possible alternative actions and/or mitigation would be forthcoming from the FWS if it is felt that the action would likely jeopardize these species or adversely modify their crucial habitat.

Aquatic Wildlife

Primary impacts to the four streams mentioned in Chapter II of this EA are anticipated to be related to sedimentation from increased erosion. Surface disturbance in the construction of roads, pipelines, and the railroad line in the immediate vicinity of these streams would increase stream and channel changes, and reduce fisheries habitat (Kemmerer EAR, Chapter III-Soils, Water, Aquatic Biology). In the case of the Bear River (Photos III-1 and III-2), special site-specific considerations would be required where the river is directly affected to minimize these impacts due to the existence of three State-listed rare or sensitive fish species (Chapter II of this EA).

Livestock Grazing

Table III-5 lists the estimated AUMs that would be lost from the construction and operation of these proposed projects (Map II-2). Other impacts not addressed in the Kemmerer EAR would be the increased conflict between cattle trailing and vehicular traffic or train operations.

Due to the steep narrow topography of certain portions of Whitney Canyon, cattle tend to trail on the already heavily used Whitney Canyon road, which has resulted in livestock losses.

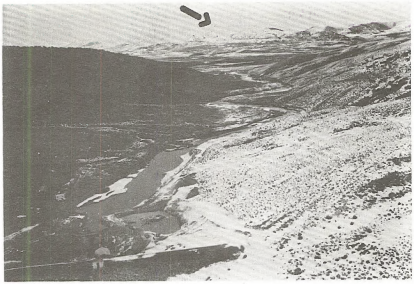


Photo III-1. This view is from the Woodruff Reservoir looking northeast through the Woodruff Upper Narrows of the Bear River. Chevron's proposed water pipeline and associated access road and powerline would be within immediate proximity to the right side of the river as viewed here. The arrow indicates the approximate location of the Chevron processing plant site.

Photo III-2. The Woodruff Lower Narrows are viewed from the west end looking east upstream of the Bear River. The proposed railroad route would be adjacent to the river in many locations on the left side as viewed here. Some direct effects to the present river channel are anticipated as a result of constructing the railroad.

Table III-5

ESTIMATED AUM LOSSES DUE TO PROPOSED ACTION
IN CUMBERLAND/UINTA COMMON ALLOTMENT

	Average Acres per AUM[3/]	Acreage Disturbed/Occupied	Estimated AUM Loss
Short Term[1/]	6.9	1,824	264
Long Term[2/]	6.9	1,026	149

1/ That general period of time after construction of the proposed projects in which all rehabilitation efforts would have been completed on those areas not occupied by the various associated facilities. Revegetation of specific areas to preconstruction productivity is estimated to take 5 to 10 years.

2/ That period of time, approximately 50 years, which is estimated to be the life expectancy of the facilities. Acreage shown is that which would be occupied by the facilities or not accessible to livestock.

3/ Animal Unit Month (see Glossary).

Table III-7

POPULATION PROJECTIONS RESULTING
ONLY FROM PROPOSED ACTION

	1980 (Start Construction)	1981 (Peak Construction)	1982 (Complete Construction)	1983 (Operation)	1984 (Operation)	1985 (Operation)
Construction Employees 1/	819	1,655	1,187	0	0	0
Operation and Maintenance Employees 2/	0	0	69	189	189	189
Impact on Population						
Direct 3/	1,290	2,607	2,041	589	589	589
Indirect 4/	(2,325)	(4,700)	(3,509)	(1,073)	(1,073)	(1,073)
Corrected for Indirect Lag 5/	233	940	1,404	644	858	1,073
TOTAL Impact (rounded)	1,520	3,550	3,445	1,233	1,447	1,662
Resultant Total Populations						
Uinta County (Base 12,460)	13,980	16,010	15,910	13,690	13,910	14,120
Greater Evanston (Base 7,450)	8,970	11,000	10,900	8,680	8,900	9,100

1/ Combined peak would be in August 1981. Chevron estimates peak construction employment of 1,112 in September through November 1981. Amoco expects peak workforce of 592 in August 1981.

2/ Company estimates of 120 for Chevron and 69 for Amoco.

3/ Assuming 25% of construction workers would have families who would move to greater Evanston, and assuming 90% of operational employees would have families who would move to greater Evanston. It is assumed the average family size is 3.3 persons (1.3 children). Assume virtually all employees immigrate from outside region or move from local job requiring such immigration as per economy. Direct impact is employees and families only. Indirect includes the service sector.

4/ Assuming two service sector jobs are required for each of the basic sector jobs in operations. Because virtually all construction employees would be housed by companies in construction camps and mobile courts, the service center impact would be extended as far as Salt Lake City, from which basic construction supplies, workers, other families, food, etc., would be provided. The impact to Evanston would be substantially diluted. Therefore, it is assumed that service sector requirements of the area to be 50% of that otherwise expected; or 1 to 1 through construction, and 2 to 1 during operations. It is assumed that virtually 100% of service sector families would live in the area, either immigrate or vacate a local job that requires immigration, and that 80% would have families.

5/ Service Sector Development: Service sector includes retail and commercial services, professional services, and government services necessary to meet the needs of the expanding population. Historically, development of the service sector in rapid growth areas has lagged several years behind development of basic industry. This is due to the lead time required for financing and development, lack of suitable physical facilities for new shops and offices, and lack of housing plus high cost of living for new public employees such as teachers and nurses. In doing these projections, an arbitrary assumption has been made about the amount of lag time for service sector development. It is assumed that 10% of service sector needs would be filled in 1980, 20% in 1981, 40% in 1982, 60% in 1983, 80% in 1984, and 100% in 1985. (Source: LUAG 1980)

Housing

Housing impacts would be considerably mitigated by Chevron and Amoco's proposals to "provide for their own." Amoco and Chevron propose to build bachelor quarters to house construction employees near the construction site, and mobile units in greater Evanston to house 55 and 267 families, respectively. All but 117 of the latter units would have their own sewer facilities, presumably approved by State standards and in accordance with local planning regulations.

The September 1979 housing survey in Evanston, conducted by LUAC, indicates that there are already 1,942 units in the city (Table II-3). Table III-8 shows the needs that would be generated by the proposed action and that met by Chevron and Amoco. Rather than show a 61-28-11 ratio of single-family to mobile home to multifamily units (present ratio), a 10-50-40 ratio is expected in the early boom years and if multi-family housing would not be built, it could be 20% to 80% favoring mobile homes. In later years, not only could the singlefamily unit supply catch up, but a stable operational waorkforce would require a larger percentage of single-family units.

From Table III-8 it is obvious that the company facilities would house all families and individuals directly involved with the company, but the workforce produced by secondary impacts on the economy would not be housed. The greatest disparity in need would exist during peak construction (1981-82).

Utility Infrastructure

Sewer services would understandably be taxed in Evanston beyond present capacities if the population impacts are even 50% correct. Evanston's present system is operating at maximum capacity levels on a regular basis. New housing would place excessive demands on utilities. The city estimates that $300,000 in sewer improvements are needed immediately, and more later.

School Enrollments

In education, Uinta County School District #1 (Evanston) is already at optimum capacity in several instances and over maximum capacity in two instances (Table II-10). Table III-9 indicates the number of additional students which would result from the proposed action. In 5 out of 6 years, needs would exceed school capability (1981-1985). Depending on which school ages this would impact, major school building programs may be necessary to meet demands.

The State of Wyoming indicates that in order to meet all projected enrollments (Table II-10), including impacts of the proposed action construction, should be begun immediately on a 450-student elementary school in Evanston ($2,228,000 cost); a new gym and shop on the middle school site ($550,800); eight additional classrooms to the middle school ($475,00); and corrections for existing fire code violations ($100,000). Thus there are $3.5 million worth of immediate improvements recommended for the school district to meet existing needs.

Protective Services

Lincoln and Uinta Counties are concerned about the pressures that would be placed on law enforcement (Appendix 7). Weekend trips to Evanston and Kemmerer by construction crews are of concern, but there are also concern about poaching, unlawful trespass, and shooting of domestic livestock and wildlife. Based on past experiences where transient construction crews and oil and gas exploration companies are intensively working in unpopulated areas, this concern may be well-founded (pers. comm., Livestock Operators 1980). Certainly the employee residency distribution would change drastically (Table II-8), and there would be a need for new controls and increased restraining forces through companies and through government as a combined effort to mitigate this impact.

Health and Social Services

Impacts on health and social services are still being assessed by the City of Evanston, but present statistics indicate that impacts would be significant. Table II-11 indicates how far health and social services are behind demand in some areas.

A new $7-8 million hospital is proposed to meet demands of all growth. Also proposed are 4 additional doctors and pay raises to keep service sector employees on the job rather than in the oil fields.

Revenues and Employment

Revenues would jump substantially as a result of the proposed action. Annual earnings for construction alone would be $25 million. Salaries for operational employees would be approximately another $5 million annually. When completed the Chevron plant alone is estimated to add $4 million in tax revenues to Uinta County (Chevron 1980).

In calendar year 1977 industrial sectors in Uinta County's total income in all sectors was $41,037,000 (Wyoming Department of Administration and Fiscal Control 1979). All mining activities brought $5,411,000 in income. The proposed plants alone would double the mining income figures when operating and increase the construction figure twelve-fold ($2,064,000).

Similar problems may arise with the railroad in the Woodruff Lower Narrows area and in the Salt Creek drainage where the Amoco loadout and rail spur have been proposed. Again, the combination of narrow, steep topography and the proposed location of these facilities would result in livestock losses or increased difficulty of cattle trailing. However, the allotment permittees believe that these two areas present a less serious problem than Whitney Canyon based on a one-train-per-day projection and the ability to recover damages from train-livestock accidents (pers. comm., Livestock Operators 1980).

Due in part to increased oil and gas activity in this area, livestock production has decreased. Increased harassment of cattle causes the cattle to migrate to the home ranches earlier in the fall (August instead of October). Ranchers have noticed the cows and calves are lighter coming off the range.

Cultural Resources

The proposed railroad route parallels within 1/4 mile and crosses a portion of the Oregon Trail (Map II-3). The eligibility for nomination to the National Register of Historic Places has not been determined for this portion of the trail, and, therefore, the trail must be managed as if it were eligible until that determination is made. Any action involving this part of the trail will not be allowed until consultation with the State Historic Preservation Officer and the Advisory Council for Historic Preservation is complete.

Inventories will be conducted on all affected lands plus a suitable buffer zone to identify all cultural resources. No National Register sites have been identified within the project area. For those historic and prehistoric sites which have been or will be identified as potential National Register sites, the BLM will seek determinations of eligibility from the State Historic Preservation Officer and the Advisory Council for Historic Preservation. For all those sites which are eligible for the register, a 106 compliance case report will be completed and submitted to the State Historic Preservation Officer and Advisory Council for review and comment. As with any surface-disturbing activity, the potential exists for destruction of some subsurface cultural sites that may not be identified during the inventory process.

Visual Resources

The main sources of visual contrast to land and vegetation are clearing and grading. Access to the site of activity is often more disruptive than the activity itself.

Table III-6 summarizes contrast ratings for the project area which were derived by using critical viewpoints along U.S. 189, U.S. 30, and U.S. 89 (Map II-3). Contrast ratings were determined by evaluating the extent to which the proposed action would contrast with the existing landscape in terms of line, color, and texture (BLM Manual 8423). All contrast ratings indicate the proposed projects would be within allowable Visual Resource Management (VRM) class limits. Appendix 6 contains the contrast rating sheets for the project. Further information on the VRM System is available for review in the Rock Springs District Office.

Land Uses

County Planning and Zoning. The proposed action and all of the alternatives except the no-action alternative would constitute changes in land uses. Historic use of the area has been for livestock grazing and wildlife habitat rather than the industrial uses that these projects represent.

Transportation Networks. Notable increases in vehicular traffic between the construction sites and Evanston would result. The city streets of Evanston would also be affected. There would be a notable increase in heavy truck traffic on U.S. 189 from a rail spur siding located near the Naughton Power plant outside of Kemmerer approximately 16 miles south to the Dee Ranch road and from Interstate 80 north on U.S. 189 approximately 14 miles to the Dee Ranch road (Map I-2). Due to this increased vehicular traffic and associated heavy vehicular equipment, road damage and repair costs would increase. Secondary impacts would be associated in the surrounding area and communities due to recreational pursuits of the construction labor forces.

Socioeconomic Conditions

Virtually every sector of the socioeconomic environment would be affected by the proposed action. The key impacts would be increases in population, traffic, and schol enrollments, and the need for more safety (fire, police, law enforcement), utility infrastructure, and health and social services in Uinta County and the surrounding area. Increases in revenues to the county would also be anticipated.

Population

Table III-7 projects population impact attributable to the proposed action. The biggest impact would be in 1981 and 1982 when county population may be increased by over 3,500 when the peak construction workforce would be present (Appendix 2) and service-connected employment would begin to catch up.

Table III-6

SUMMARY OF VISUAL CONTRAST RATINGS
FOR CARTER CREEK AND WHITNEY CANYON PROJECTS

Critical Viewpoint Number	Visual Management Class	Active Structures Features Being Evaluated 1/		
		Land	Vegetation	Structures
1	III	8/15	4/10	4/10
2	IV	4/7	NS	4/11
3	IV	4/7	NS	4/16

Visual Management Class	Maximum Acceptable Impact
Class III----------	2/16
Class IV----------	-/20

1/ $\frac{8}{15}$ Highest element contrast / Total score for feature

NS = Not seen from critical viewpoint.
Visual Contrast Rating worksheets are located in Appendix 6.

Table III-8

HOUSING DEMAND RESULTING ONLY FROM PROPOSED ACTION

	1980	1981	1982	1983	1984	1985
Number of local families[1/]	198	697	647	428	458	525
Housing Needs (approximated, rounded)						
SF (single-family residence)	20	70	150	150	200	250
MF (multi-family residence)[2/]	80	170	200	80	60	50
MH (mobile homes)	100	360	300	200	200	225
TOTALS	200	700	650	430	460	525
Needs Met (for employees) by Chevron/ Amoco[3/]	322	322	322	322	322	322

1/ Assuming all bachelors' needs are not met by bachelor housing at the construction camps.

2/ This multi-family figure depends on construction of such units, otherwise expected proportionately greater increases in MH (mobile homes) and a slight increase in SF. Rental units are considered SF or MF, depending on all involved.

3/ As stated recently to BLM office, construction has already begun on the new mobile home courts in greater Evanston.

Table III-9

PROJECTED SCHOOL ENROLLMENT DUE ONLY TO PROPOSED ACTION

	1980	1981	1982	1983	1984	1985
Families of Chevron/Amoco[1/] construction and operations employees	150	425	295	170	170	170
Families of Indirect (service)[1/] sector-(Theoretical)	(480)	(1,360)	(880)	(302)	(302)	(302)
Families of service sector[1/] (corrected for lag)	48	272	352	181	242	302
TOTAL FAMILIES	198	697	647	351	412	472
TOTAL CHILDREN ADDED (families x 1.3)	257	906	841	456	536	615
Current SD #1 Enrollment[2/]	1,429					
Total Enrollment	1,686	2,335	2,270	1,885	1,965	2,044
Current SD #1 Maximum Capacity[2/]	1,900					
Projected Enrollment[3/]	1,691	1,953	2,215	2,477	2,739	3,000
Projected Enrollment without Proposed Action	1,429	1,047	1,374	2,021	2,204	2,385

1/ From Table III-8, with assumptions per footnotes. Thus, in the 1980 column, the 150 families represent 25% of the construction workers who would bring families.

2/ From Table II-10.

3/ 1980 Evaluation Report, Administrative Services Division, Wyoming Department of Education.

Similarly, 1977 employment for Uinta County was only 4,364 (Department of Administration and Fiscal Control 1979). The peak construction force would increase the employment by 25%. Long-term operations would create new permanent jobs, including 189 for operation and maintenance of the projects and 378 in various service sectors (2 for each basic sector job).

Impacts of the Alternatives

Analysis of the alternatives as discussed in Chapter I reduced the number of reasonable alternatives that would be discussed in detail to the alternate Evanston Railroad route and the all-Wyoming modification of the proposed railroad route (Map I-2). Comparative impacts of the Evanston route and the proposed railroad route are shown in Table III-10. Impacts of the all-Wyoming route would be, for all practical purposes, the same as those of the proposed route.

The Evanston route would cost less to construct than the proposed route, but it would have the following key impacts that the companies have indicated would make it much less desirable than the proposed route:

1. The route would pass through and have an impact on developed ranch land, the associated flood plain, and riparian habitat of the Bear River Valley. Impacts to the Bear River, which is considered by the Wyoming Game and Fish Department to be a "blue-ribbon" fishing stream, would be similar to those described as a result of the proposed action. (Also see Kemmerer EAR, Chapter III-Aquatic Wildlife.)

2. The rail service from Evanston to sulfur markets would require an additional 130 miles of transportation distance to the Union Pacific rail yard at Montpelier, Idaho. This would further congest Union Pacific's main east-west line between Evanston and Granger, and trains would have to pass over the Bear River Divide twice--once east of Evanston and again west of Kemmerer, requiring larger amounts of evergy to transport the sulfur.

3. The route would not correspond to Union Pacific's plans for improved rail service in the area, and the result would be higher costs for rail service and higher product costs than for the route which is part of the proposed action.

Mitigation Not Included in the Proposed Action or Alternatives

This section identifies those reasonably possible mitigating measures which could be applied to eliminate or reduce adverse impacts and to enhance beneficial impacts. These mitigating measures are in addition to those which are contained as part of the proposed action: i.e., mitigation already proposed by the companies; standard stipulations (Appendix 1); pertinent mitigation developed in the Kemmerer EAR; and mitigation imposed or required by Federal, State, county, or municipal laws or regulations.

Additional mitigation would be developed as appropriate, based on impact analysis of site-specific EAs that would be prepared when the individual rights-of-way are processed and the exact locations are identified.

Air Quality

1. Install automatic H_2S monitoring and warning devices at strategic locations along well gas pipeline systems and at the individual well heads. These devices would assure warning of H_2S leaks and alert both authorized and unauthorized personnel in the area of potential hazards.

Geology

2. Field investigations of proposed well gas gathering pipeline routes should be conducted to assure avoidance of geologic hazards.

Soils

3. Zero discharge concept should be employed for all disturbed areas within the rights-of-way at the processing plants and loadout facilities. This would eliminate any increased precipitation discharge into the natural drainages. If the water quality is acceptable, it could be used to aid rehabilitation efforts, drilling operations in the area, wildlife/livestock water source, dust abatement on access roads, water needs for gas processing, etc.

4. A Soil Conservation Plan should be developed by the company involved and approved by the Area Manager prior to construction. The conservation plan would be followed throughout all phases of construction as well as any follow-up reclamation on disturbed areas. The implementation of the plan should be supervised by a qualified company representative (agronomist, soil scientist, or reclamation specialist). The plan should include as a minimum: (a) soil fertility program to meet revegetation needs of disturbed areas; (b) the kinds and type of equipment needed to replace the spoil and restore the land to approximate original contour;(c) locations and specifications for soil stockpiles; (d) how topsoil would be replaced and spread; (e) the kinds and amount of viable seed and mulch to be used; (f) the kinds of sediment and erosion control practices that would be used to reclaim disturbed areas, stockpiles, cut and fill slopes; and (g) timeframes for rehabilitation of all disturbed areas.

Table III-10

COMPARISON OF IMPACTS OF THE PROPOSED RAILROAD ROUTE
AND THE EVANSTON RAILROAD ROUTE ALTERNATIVE

	Short Term[1/]		Long Term[2/]	
	Proposed	Evanston	Proposed	Evanston
Railroad Rights-of-Way				
Total Length in Miles[3/]			35.2	24.8
Chevron			1.8	1.5
Amoco			4.8	5.3
Common			28.6	18.0
Total Acres Involved			876.0	619.0
Public			517.0	104.0
Private			271.0	428.0
State			91.0	87.0
Acres Disturbed by Construction				
Railroad Construction	660	465		
Acres Occupied/Used by Facilities				
Railroad			440	310
Aggregate Used in Cubic Yards			485,300	431,700
Total Railroad Aggregate			190,000	136,400
Chevron			15,000	12,500
Amoco			29,500	32,400
Common			145,500	91,500
Earthwork Used in Cubic Yards				
Railroad				
Cut			22,000	0
Fill				
Terrestrial Wildlife				
Acres of Big Game Crucial Habitat Lost	304	90	203	63
Acres of Sage Grouse Strutting/Nesting Area Lost	337	0	188	0
Endangered and Threatened Species				
Bald Eagle	May Affect	Would Not Affect		
Black-Footed Ferret	May Affect	May Affect		
Livestock Grazing AUMs Lost				
Meadow Vegetation[4/]	0	77	0	51
Cumberland Allotment[5/]	264	212	149	109
Visual Resources[6/]				
Railroad	Low-Moderate	High	Low	Moderate-High

1/ That period of time required for the rehabilitation of disturbed vegetation areas not occupied by facilities to preconstruction productivity.

2/ The estimated lifetime of the projects; approximately 50 years.

3/ Width of right-of-way (200 feet) would be the same for both proposals.

4/ Meadow vegetation type is found along Bear River, and it includes riparian habitat (Kemmerer EAR--Chapter II, Vegetation). Carrying capacity (see Glossary) for cattle is estimated to be 2.7 acres per animal unit month (AUM).

5/ Carrying capacity in this allotment is approximately 6.9 acres per AUM.

6/ Bear River is in the BLM Visual Resource Management Class II, which represents more stringent constraints to visual modification than the Classes III and IV in the rest of the project area (Kemmerer EAR-Table II-8 and Chapters II and III, Visual Resources). Impacts are expressed in terms of low, moderate, or high effect on VRM values.

5. Due to the steep topography of the interconnecting facility corridors and the necessity of an associated maintenance road, vehicular access to these roads should be restricted to only necessary maintenance activities. This would help rehabilitation efforts and minimize impacts to water erosion control devices.

Water Resources

6. Employ zero discharge concept as identified in Soils Mitigation No. 3. This would eliminate water quality degradation that would result from runoff from those areas having newly exposed alkaline soils.

7. Restrict construction activity in the immediate vicinity of the Bear River to the low flow period during late summer or early fall. This would allow the installation of necessary riprap and other channel stabilization where the river is directly affected.

8. Any ancillary facility constructed within the flood plains of Bear River, Salt, Bridger, Cottonwood, and Twin Creeks should be designed to withstand and/or accommodate a 100-year flood without causing either upstream or downstream damage that would result from increased flow velocities or damming of drainage channels due to improper designs.

9. After construction and prior to rehabilitation seeding, the company should develop a soil fertility program that would be approved by the District Manager. The plan should determine through soil analysis the available nutrient levels. That information would be submitted to BLM, and it would be used to determine vegetation nutrient needs which are not met by site-specific soil fertility. Those identified deficits then should be corrected by a supplemental fertility program.

Terrestrial Wildlife

10. Construction of the proposed projects would disturb approximately 1,824 acres of wildlife habitat and would take out of production during the life of the projects approximately 1,026 acres of habitat. In addition there would be an undeterminable amount of habitat lost due to an increase in human activity. A number of acres would be improved to offset the above direct and indirect losses. The exact number of acres, locations, and specific type of habitat improvement should be determined by BLM in cooperation with the Wyoming Game and Fish Department, Utah Division of Wildlife Resources, and U.S. Fish and Wildlife Service (FWS). These habitat improvement projects could include fencing riparian areas, planting forage species, various other types of vegetative manipulation, etc. All projects should be coordinated by the BLM with the companies involved and various other agencies (Wyoming Game and Fish Department, FWS, Utah Division of Wildlife Resources, etc.).

11. The intrusion of the construction workforces associated with the proposed projects in prime deer winter range would undoubtedly cause changes in deer movement patterns, and increases in harassment, in the number of licensed hunters in the area, and in the number of incidences of poaching. To mitigate this impact, a project should be initiated to monitor changes in movement patterns, of the deer population. That information would be used in the development of a habitat management plan for the area. This information-gathering project would be similar in intent to a large-scale project that is under consideration for funding by the Rocky Mountain Oil and Gas Association (with funds to be administered by the Wyoming Game and Fish Department) to study the impacts of oil and gas development on wildlife and to recommend reclamation procedures.

12. Restrict motorized travel to primary access routes to reduce additional vegetation impacts from off-road vehicle (ORV) use big game crucial wintering range and harassment of wintering animals.

13. Consider all mitigation recommendations made by the Fish and Wildlife Service concerning the bald eagle roost at the Woodruff Lower Narrows as a result of the Section 7 consultation.

14. Reallocate forage in the Cumberland/Uinta Allotment from livestock to wildlife to offset carrying capacity losses in the area.

15. Allow no activity within 1/4 mile of a sage grouse lek center (see Glossary) and no construction within an additional 1 3/4 miles from this lek area from March 15 through July 15 unless authorized by the Area Manager.

16. Utilize surface runoff water collected in the zero discharge system of the plant sites for wildlife and livestock water developments should the water quality be acceptable for that purpose.

17. Utilize the railroad as a means of restricting vehicular access on nonessential existing roads by keeping road crossings to a minimum. This could help reduce harassment of wildlife populations by recreational activity (see Transportation Networks, Mitigation Measure No. 28).

18. Locate all roads and railroads as close to the Utah-Wyoming border as possible to by-pass sage grouse strutting/nesting complexes located in Cottonwood Creek and to minimize human disturbance in those areas.

19. Construction of any facilities located within designated big game crucial winter range should not take place from October 15 to May 15. Human activities should be restricted to "essential-uses-only" in these areas during the same period, unless authorized by the Area Manager.

20. For those portions of the stream channels affected by disturbance, riprap (see Glossary) with suitable material the fills and downstream banks which would be expected to erode due to channel changes, and take other measures required to prevent erosion.

21. Improve instream habitat of the Bear River by utilizing boulder placements of suitable size to improve cover habitat and offset reduced habitat quality as a result of the railroad and Chevron's proposed water pipeline and associated access road.

Livestock Grazing

22. Construct a livestock trail and necessary drift fences and cattleguards in Section 27 of Whitney Canyon to facilitate livestock movement through a steep, narrow portion of the canyon heavily used by both vehicles and livestock.

23. Should livestock losses from rail traffic in the Woodruff Lower Narrows become a problem, fence that portion of the railroad or create a livestock trailing lane which could be used to eliminate losses.

24. Utilization of surface runoff water collected in zero discharge system of the plant site could be used for livestock/wildlife water developments should water quality be acceptable for that purpose.

25. Reduce harassment of livestock by reducing vehicular use of primary access roads through the installation of ditches, gates, signs, and fences.

26. Reallocate forage in the Cumberland/Uinta Allotment from wildlife to livestock to offset carrying capacity losses in the area.

Recreation Resources

27. To help alleviate added pressures on developed outdoor recreation facilities, BLM should approve the City of Evanston's Recreation and Public Purposes (R&PP) lease application (BLM Case No. W-66896) and grant the City of Evanston the necessary use authorizations. The application is for an outdoor, multi-use recreation area to be located approximately 2 miles northeast of the city (S1/2S1/2, Section 10, T. 15 N., R. 120 W.).

Visual Resources

28. As much as practical, all roads and the railroad should be designed to follow natural contour lines, reduce contrast of cut and fill slopes with natural topography, and facilitate rehabilitation of those areas disturbed.

Transportation Networks

29. Develop a transportation plan for the area affected by the proposed railroad route. The plan should identify what road crossings would be needed across the right-of-way and what roads could be abandoned by not providing crossings. Inputs into the plan should be sought from an interdisciplinary resource specialist team with emphasis on reducing wildlife and livestock harassment from nonessential roads.

Socioeconomic Conditions

30. A system or a procedure should be developed whereby funds could be made available by the companies to the local government agencies during the construction period as immediate payment of future taxes that would be paid for these processing projects. This would make monies available to the local governments during the construction period of the projects, when the majority of the socioeconomic impacts would occur.

31. If the socioeconomic impacts (or other impacts) that the Uinta County Commissioners anticipate to occur from the proposed projects have not been reasonably mitigated, the Commissioners may withhold the land use permits that are required by the county for the construction of these facilities. The BLM should issue rights-ofway grants associated with these projects contingent upon the companies' obtaining the necessary land use permits from the appropriate county authorities.

32. The BLM should support the efforts of the proposed joint council (refer to Appendix 7, letter dated March 4, 1980, from the Uinta County Commissioners) in solving those problems identified by the council which involve BLM responsibilities and management charges. This joint council includes representatives of the various oil and gas companies that operate in the area. The council's purpose is to review the needs of the county as submitted by the Commissioners, and then determine how the oil and gas industry in the area would meet those needs.

33. The City of Evanston currently has an application with the Federal Housing Administration (FHA) for energy impact assistance money available through the Department of Energy (DOE). This application for a $640,000 grant for a housing tract site should be expeditiously reviewed by FHA and

DOE and determination should be made as soon as possible so that those monies could be made available to the city.

Unavoidable Adverse Impacts

Air Quality

The operation of these gas treatment plants would emit various pollutants (Appendix 4). However, these emissions would be within the State of Wyoming Department of Environmental Quality air emission standards. Dust pollution would increase due to additional vehicle traffic in the area during the construction phase of these gas treatment plants and ancillary facilities (Kemmerer EAR-Chapters III and IV). H_2S leaks could result in unavoidable adverse impacts.

Mineral Resources

Commitment of nonrenewable resources would occur. At full production of both gas treatment plants, 770 million cubic feet of well gas per day would be processed. Construction of the plant sites and ancillary facilities would require 485,300 cubic yards of aggregate. Construction of the railroad would require 95,000 cubic yards of ballast which would be transported from outside the immediate area.

Topography

Construction of the plant sites and ancillary facilities would cause some limited changes in the natural topography. Approximately 471 acres would be leveled to accommodate the plant sites and loading facilities. Construction of Chevron's primary access road between the proposed loadout and plant sites would noticeably alter the existing topography.

Soils

An undetermined amount of increased soil erosion would occur through the disturbance of 1,824 acres during the construction of the proposed projects. Nevertheless, this unavoidable loss is anticipated to be within acceptable limits based upon the past experiences of BLM in dealing with actions similar to those that constitute these projects (i.e., ROWs for pipelines, access roads, railroads, plant sites, powerlines, etc.).

Water Resources

The greatest impact to water quality would be caused by railroad construction. In order to obtain a favorable natural gradient the railroad would be constructed largely within the flood plains of the Bear River and other streams. Increased siltation could be expected due to the close proximity of the railroad to the streams.

Chevron anticipates pumping 1,710 acre-feet of water per year from Woodruff Reservoir to operate their plant. This would be 3% of the reservoir capacity. Amoco would obtain its 97 acre-feet of water per year from wells at the Amoco plant site. Contaminated waste water would be disposed underground in accordance with DEQ requirements.

Vegetation and Livestock Grazing

Approximately 1,824 acres of vegetation would be lost to construction of this project. Of this acreage, approximately 800 acres would be revegetated by methods discussed in Soils-Mitigating Measure No. 4. Approximately 264 AUMs would be lost by construction activity. After revegetation of short-term disturbed areas, 115 AUMs would be put back in production; therefore, 149 AUMs would be lost to livestock/wildlife grazing during the lifetime of these projects. Generally the harassment of livestock would increase by the construction of these projects. During recent years ranchers in this area have noticed their stock coming off the range earlier and lighter in weight than in previous years (pers. comm., Livestock Operators 1980). They attribute this loss primarily to increased activity in the area.

Terrestrial Wildlife

The construction of the proposed projects would result in the destruction of approximately 533 acres of big game crucial winter range. The proposed railroad would cross nine presently identified sage grouse breeding complexes. Construction of the railroad through the Woodruff Lower Narrows would affect the winter roosting and spring staging area of approximately 200 bald eagles. A potential conflict may exist with black-footed ferrets. The extent of these effects will be determined through consultation procedures with the FWS.

Recreation Resources

See Kemmerer EAR-Chapter V, Residual Impacts.

Cultural Resources

The major residual cultural impact associated with these projects concerns the possible destruction during construction of cultural resources not identified during archeological surveys.

Visual Resources

The construction of the plant sites and related facilities would add a incremental degradation of visual qualities to an area in the inceptive stages of industrial development. Visual intrusions, as a result of oil and gas development, are presently noticeable in the area.

Socioeconomic Conditions

The influx of approximately 1,655 workers during the combined peak construction period (August 1981) would have unavoidable impacts primarily upon the community of Evanston. The anticipated impacts would be as follows:

1. Increased traffic after work hours and on weekends.

2. Increased incidences requiring law enforcement, such as fighting, public drunkenness, robbery, and car accidents.

3. Obligations of every other service provided by the city would increase.

Relationship Between Short-Term Uses and Long-Term Productivity

BLM's proposed issuance of the various rights-of-way needed by both the Whitney Canyon and Carter Creek natural gas processing projects would essentially allow the processing of 770 mmcfd of natural gas over the next 35-year period (based on reserves of 10,000 mmcfd) in southwestern Wyoming. These natural gas energy developments would help meet the nation's short-term energy needs, allow additional time to develop alternative energy sources, contribute to the reduction of this nation's balance of payment deficit, and reduce this country's dependency on an increasingly unpredictable and limited foreign oil supply. The authorizing actions required for these proposed projects would result in short-term and long-term losses or alterations of natural resources and the human environment.

The following discussion supplements Chapter VI of the Kemmerer EAR.

In the short term, there would be:

1. A reduction in air quality due to emissions from these processing plants and an increase in the total suspended particulates (TSP) due primarily to increased vehicular traffic;

2. Disturbance of about 1,824 acres of soil surface resulting in a reduction of approximately 264 AUMs of livestock and wildlife forage;

3. A use of 1,807 acre-feet of water per year;

4. A deterioration of fisheries habitat and water quality due to increased sedimentation;

5. The potential destruction of some subsurface cultural resource sites. The extent of this loss cannot be determined until the location and nature of these disturbances are known;

6. A lowering in the quality of outdoor recreational experiences due to the increased demands of the peak construction forces of approximately 1,655 workers; and

7. Impeded traffic movement due to increased number of trains and vehicles.

In the long term, there would be:

1. The loss of vegetative productivity on about 1,026 acres occupied by the various facilities associated with these projects, resulting in a reduction of approximately 149 AUMs of livestock and wildlife forage.

2. A deterioration of fisheries habitat and water quality due to increased sedimentation;

3. Improved public facilities in response to demands of an increased population and increased tax revenues to Uinta County is estimated to be $4 million from the Chevron facility alone; and

4. Approximately 567 new permanent jobs would be created by the operation of these proposed projects. The jobs would include 189 for operational and maintenance personnel needed for both projects and an estimated 378 jobs in the various service sectors.

Irreversible and Irretrievable Commitments of Resources

Approximately 10 trillion cubic feet of gas would be processed and consumed as a result of the proposed action. Energy in the forms of natural gas, petroleum products, electricity, and other energy sources would also be expended to process the natural gas reserves or consumed by the increased population in the area.

Various material used in the construction, operation, and maintenance of these facilities may not be reusable or recoverable, and thus, would be lost forever. Approximately 485,300 cubic yards of aggregate would be needed for the construction of these projects.

Existing soil associations on approximately 1,824 acres would be irretrievably lost. Soil and vegetative productivity would be lost on approximately 1,026 acres that would be occupied by the various facilities during the operation of the projects. This loss of soil/vegetative productivity would result in the loss of 149 AUMs to livestock and wildlife.

Changes in topography resulting from the construction of a railroad and Chevron's access road in areas that would require extensive cut and fill would essentially be irretrievable to predisturbance condition during abandonment-restoration efforts.

Discussion of other irretrievable commitments of resources can be found in Chapter VIII of the Kemmerer EAR.

Summary of Environmental Consequences of the Proposed Action and Alternatives

This section contains a summary table (III-11) which lists identified mitigable impacts of the proposed action and alternatives, the appropriate mitigation for those impacts, an estimate of the effectiveness of the mitigation, and the environmental component(s) affected. The table has been arranged by facility to aid in the processing of the individual rights-of-way grant stipulations. This table summarizes the impacts and mitigation analyzed and developed in this EA and the Kemmerer EAR.

Table III-11
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
GENERAL			
Changes in historic land use patterns would result oil and gas development and production.	Existing and proposed county zoning regulation should assure further oil and gas development in accordance with county expectations.	100% effective when controlling land uses according to planned development on private land.	Socioeconomic
Increased demand on local housing market would result from incoming construction workers and operating personnel necessary for these proposed projects.	Construct temporary camps for construc- for construction workers and trailer courts for supervisory construction personnel. Incentive for these people to use these facilities would be no charge to personnel.	80% effective in reducing demands on local housing	Socioeconomic
Increased demands would be made on local medical personnel and facilities due to construction.	Provide field medical personnel and first aid facilities at construction camps and sites.	Effectiveness in reducing demands on local medical personnel and facilities and/or meeting worker needs not determined.	Socioeconomic
The construction workforce would place increased demands on local services and recreational facilities.	The proposed work schedule of five 10-hour shifts per week, with 30-minute lunch, 1 hour each for breakfast and dinner, and a one-half hour bus ride to and from the construction site obligate the construction workers to a total of 13½ hours per each working day.	70% effective in obligating the time of the construction workforce	Socioeconomic Terrestrial Wildlife Livestock Grazing Recreation Resources
Due to the slump recently in regional construction activity, a depressed job market exists for many skilled laborers. This situation is notably present in the greater Salt Lake City and Denver areas.	Construction of these plants would provide jobs for a peak construction total of approximately 1,700 workers.	The effect on the overall depressed job market is unknown.	Socioeconomic

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
The construction workforce would place increased demands on city and county services such as law enforcement, schools, medical facilities, etc.	Amoco's grants of $100,000 to Uinta School District No. 1 and $100,000 to the City of Evanston for law enforcement, and Chevron's grants of $300,000 to the school district, $65,000 to the Uinta County Sheriff's Department, $100,000 to the Uinta County Memorial Hospital for facility improvements and equipment, plus $30,000 for an equipped four-wheel drive ambulance, and $5,000 to the Western Wyoming Mental Health Association for human services should help alleviate much of this impact.	Effectiveness in meeting the total impact of the proposed workforce on these areas cannot be determined at this time.	Socioeconomic
The operation and maintenance of the proposed processing facilities would create an estimated 567 jobs, including the service sector, and increase the greater Evanston population by 1,662 people.	Increases in tax revenue that would be received by local governmental agencies (estimated to be $4 million per year for the Chevron facilities alone) should provide adequate monetary capabilities to meet public service demands related to the proposed projects.	100% effective	Socioeconomic
Increased traffic on the various access roads between the construction camp and sites would increase safety hazards.	Bus workers to and from construction camp and sites.	90% effective in reducing traffic associated with the projects, notably along the Whitney Canyon and Bear River Divide Roads.	Transportation Network

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
The proposed projects have the possibility of affecting cultural resources.	Prior to any ROW authorization, BLM would conduct the necessary consultation with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) concerning possible effects for inclusion on sites eligible on the National Register of Historic Places.	By law, this mitigation has to be 100% effective for those sites that are identified as being eligible or having potential for inclusion on the National Register of Historic Places.	Cultural Resources
Cultural resources that have not been identified by previous archeological surveys may be destroyed or disturbed by surface-disturbing construction activity.	Any cultural resources discovered during construction activities should be reported immediately to the BLM. Such a discovery should require suspension of all construction activities until a written authorization to proceed has been issued by BLM. The Bureau should determine the appropriate action necessary to prevent the loss of significant cultural values.	Effectiveness in reducing the loss of unidentified cultural resources cannot be determined.	Cultural Resources
Surface disturbance would occur during the construction phase of the proposed action.	Stockpile topsoil and spread it back over the disturbed areas not occupied by permanent facilities. Stockpile and reseed topsoil for plant and loadout site rehabilitation when project is terminated.	80% effective	Soils Watershed
Existing topography would be altered to accommodate the plant treatment and ancillary facilities.	Restore all disturbed areas not occupied by permanent facilities to the original contours. The BLM Area Manager could permit grading of cut and fill slopes where recontouring is not practical.	85% effective	Watershed Visual Resources

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
Construction and operation of gas treatment plant and ancillary facilities would generate waste; e.g., oil drums, trash, polluted water, etc.	All waste material will be disposed in sites approved by Wyoming DEQ	100% effective	Visual Resources Wildlife Livestock Grazing Recreation Resources Water Resources
Construction of proposed projects would disturb approximately 1,824 acres of wildlife crucial habitat and livestock grazing areas, including the long-term loss of an estimated 1,026 acres to grazing animals. There would be an additional loss of an undeterminable amount of wildlife habitat due to an increase in human activity.	A number of acres of range should be improved to offset this impact's direct and indirect losses. The exact number of acres, locations, and specific type of range improvement would be determined by the BLM in cooperation with various other agencies (FWS, Wyoming Game and Fish Department, Utah Division of Wildlife Resources, etc.) and the affected livestock operators. These improvements could include fencing riparian areas, planting forage species, and various other vegetation manipulation work. All projects should be coordinated by BLM with the companies and various other agencies involved.	The effectiveness of increasing the vegetative production capacity would depend upon the specific project to be accomplished; thus, it cannot be determined at this time.	Terrestrial Wildlife Livestock Grazing
Intrusion of construction workers associated with the proposed projects into deer crucial winter range could cause changes in deer movement patterns because of increased human activity.	A project should be initiated to monitor changes in deer population movement patterns. This information should be used in the development of a habitat management plan for the area.	N/A	Terrestrial Wildlife
Vegetation would be disturbed by construction activities.	Where possible, revegetate according to the following plan: 1. First seed 20 lbs of barley per acre during the period from as soon as practical after soil thaw to May 15.	90% effective in assuring successful regeneration of disturbed areas.	Soils Water Resources Livestock Grazing Terrestrial Wildlife Visual Resources

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
	2. During the fall following the completion of the annual seeding, interseed the grain the perennial grass species as listed below and seed during the month of September or October. 3 lbs/acre Crested Wheatgrass (Fairway variety) unless Beardless Wheatgrass (Whitmar variety) is available. 3 lbs/acre Pubescent Wheatgrass 3 lbs/acre Critinia Thickspike Wheatgrass 3 lbs/acre Slender Wheatgrass (Primar variety) 3. Fence reseeded areas until a stand of perennial grass species is established to the satisfaction of the authorized officer. On steep slopes, broadcast seeding will be used in conjunction with erosion control matting, or the best method as identified in the Soil Conservation plan. Another alternative would be to use hydroseeding.		
ACCESS ROADS			
Vehicular traffic would conflict with livestock movement in narrow, steep topographic areas.	Construct livestock trails away from roads and provide drift fences and cattleguards to assure use of trail and minimize conflict on roads at those identified problem areas.	100% effective in eliminating livestock and vehicle conflicts in those narrow portions of Whitney Canyon.	Livestock Grazing Socioeconomic

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
Construction of the Chevron plant site would block vehicular access to the existing Bear River Divide Road.	Relocate that portion of the road around the plant site and construct the new road to minimum standards established by the BLM.	100% effective in assuring access on this road.	Transportation Network
Increased vehicular traffic on access roads would degrade air quality.	Use watering or other approved dust control methods.		Transportation Network Air Quality
Increased vehicular access to rehabilitated pipeline access roads, historic trails, and other existing low-use areas would contribute to soil erosion.	Control vehicular access from primary access routes through the use of physical barriers, i.e. gates, ditches, kelly humps, etc.	Effectiveness in preventing recreational vehicles from entering right-of-way and preventing contributions to soil erosion not determined.	Recreation Resources Soils Cultural Resources Terrestrial Wildlife
Major road construction for that portion of the proposed Chevron access road between the plant site and loadout facility would disturb an estimated 52 acres of land.	Perform a detailed engineering survey, design, and staking prior to ROW authorization.	90% effective in determining the most suitable route and the limits of disturbance that would result from construction of the road.	Soils Vegetation Water Resources Visual Resources
Construction of access road to Chevron's Woodruff Reservoir pump station adjacent to Bear River would degrade water quality.	Do not authorize new access road construction but require use of existing access road to dam and pump site.	100% effective in reducing impacts to Bear River associated with new road construction	Water Resources Aquatic Wildlife
Construction of new roads would disturb wintering deer on approximately 57.6 acres of crucial winter range in the area lying between the proposed plant sites and Woodruff Narrows Reservoir.	No construction activity should be allowed between October 15 and May 15 unless authorized by the Area Manager.	100% effective in eliminating construction activity disturbance during those periods of time identified as crucial to wintering big game.	Terrestrial Wildlife

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
RAILROAD			
The railroad (RR) would be constructed in the flood plains of Bear River, Salt Creek, Alkali Creek, Cottonwood Creek, and Bridger Creek. Increased siltation could be expected due to the close proximity of the railroad to the streambanks, particularly in the Woodruff Lower Narrows area.	Install siltation control structures (riprap, boulder placement, etc.) to reduce siltation impacts caused by the construction of the railroad.	70% effective	Aquatic Wildlife Watershed
Construction of the railroad during high flow periods would result in increased sedimentation in the Bear River.	Restrict construction activity to the late summer-early fall when river flows are at their minimum.	Effectiveness in reducing increased sediment load is undeterminable.	Water Resources Aquatic Wildlife
Existing access would be restricted by construction of the RR. A possible benefit would be reduction of ORV use by closing off secondary trails.	Establish railroad crossings where key access roads intersect the RR. Crossing locations would be designated by the Area Manager.	80% effective	Livestock Grazing Recreation Resources
Construction of the railroad (RR) would restrict livestock movements.	1. Coordinate construction of RR in areas constricted by topography so not to conflict with seasonal livestock movements. 2. Avoiding construction through steep grades which would necessitate cuts and fills that would restrict livestock movement. 3. Do not fence the ROW.	80% effective	Livestock Grazing

Table III-11 (continued)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
RR traffic through the Woodruff Lower Narrows would conflict with seasonal migration of cattle in the spring and and fall.	Monitor the first year of RR operation to document livestock/RR conflicts in the Narrows. If serious conflicts would exist, the RR ROW would be fenced in that area.	Fencing would be 100% effective in eliminating livestock losses in that area.	Livestock Grazing
Construction of the RR through the Woodruff Lower Narrows may disturb bald eagles in their winter roosting and spring staging area. Approximately 200 eagles could be affected.	Trains would pass through the Narrows only from 10 a.m. to 2:30 p.m. during the roosting and staging period. This requirement would minimize disturbance of the roosting eagles.	80% effective	Terrestrial Wildlife
Construction of this RR may have an impact on the black-footed ferret (BFF) and/or its habitat.	1. If BFF are in fact located on the proposed RR route, consider RR relocation. 2. Prairie dogs are known to be BFF's food supply. The railroad should be located to avoid prairie dog towns.	Unknown	Terrestrial Wildlife
Construction of the proposed RR would disturb 337 acres of nine known sage grouse strutting/nesting complexes.	Allow no activity within ¼ mile of a sage grouse lek center and no construction within an additional 1-3/4 miles from that center from March 15 through July 15, unless authorized by the Area Manager.	80% effective	Terrestrial Wildlife
The proposed railroad route would have a long-term effect on 188 acres of known sage grouse strutting/nesting complexes.	The railroad should be located as close as close as possible to the Utah-Wyoming State line to by-pass sage grouse strutting/nesting complexes and to minimize human disturbance of these areas.	95% effective	Terrestrial Wildlife

Table III-11
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
Construction of the RR would disturb big game on approximately 304 acres of crucial winter range.	No construction activity should be allowed between the period of December 15 and March 31.	100% effective in eliminating disturbance from construction activity during those periods identified as being crucial to wintering big game.	Terrestrial Wildlife
POWERLINES			
Reflection from transmission lines would be a visual impact.	Require nonspecular conductors to be used in construction of this powerline.	80% effective	Visual Resources
Construction of temporary access roads to pole sites would cause surface disturbance.	Track vehicles could provide access to those pole sites along the ROW where conventional vehicles cannot be used without causing excessive disturbance. No temporary roads would be constructed.	90% effective in reducing soil/vegetation disturbance	Vegetation Watershed Soils Visual Resources
INTERCONNECTING FACILITY CORRIDORS			
Service road to be constructed within this ROW would traverse steep topography which would result in excessive soil disturbance if used by conventional 4x4 vehicles.	Designate service road for track vehicle use which would minimize impact to road and soil erosion control efforts.	80% effective	Soils Watershed Visual Resources
PIPELINES			
Soil erosion would occur on the area disturbed by pipeline construction.	Construct waterbreaks on all disturbed slopes with grater than 2% grade. Strip brush only from level ground. Limit soil disturbance to slope access only; stockpile topsoil from cut areas.	80% effective	Watershed

Table III-11
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
Hydrogen sulfide leaks in the well gas gathering systems would be a safety hazard to both humans and animals.	Installation of automatic H_2S monitoring systems at strategic locations along pipelines and well head.	100% effective in sensing less than lethal concentrations of H_2S and current air movement patterns.	Air Quality Socioeconomic
Construction of pipelines would disturb big game on approximately 9 acres of crucial winter range in the area between the proposed plant sites and Woodruff Narrows Reservoir.	No construction activity should be allowed between December 15 and May 15.	100% effective in eliminating disturbance due to construction activity during those periods of time identified as being crucial to wintering big game.	Terrestrial Wildlife
Construction of surface (above ground) pipelines on slopes would require sidehill cuts to accommodate the pipeline.	Surface pipelines would be oriented perpendicular to those slopes or, where not feasible to route perpendicular to the slope, the pipeline would be buried.	100% effective in eliminating areas that could not be immediately rehabilitated and recontoured.	Soils Visual Resources Vegetation
Rehabilitation crews may not be capable of replacing stockpiled topsoil due to improper placement of stockpiles.	Portions of the pipelines that parallel slopes requiring sidehill cuts to facilitate construction should stockpile topsoil on the uphill side of the ROW.	100% effective in making stockpiled topsoil reasonably available for rehabilitation efforts.	Soils Vegetation Water Resources
Blading of surface pipeline ROW on slopes would require removal of vegetation to facilitate construction.	Where feasible, preconstruct pipeline and drag it down that portion of the steep slope.	70% effective in reducing soil/vegetation disturbance.	Soils Vegetation Water Resources Visual Resources
----------PLANT SITES AND LOADOUT FACILITIES----------			
Increased runoff from impervious areas of the plant site and storage/loadout facilities would accelerate drainage erosion and increase water salinity.	Employ zero discharge concept for all disturbed areas of the plant site and loadout facilities for livestock and wildlife, providing the runoff is suitable for wildlife and livestock consumption.	100% effective in keeping all surface runoff from entering the natural drainages.	Soils Water Resources

Table III-11
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact	Mitigation	Estimated Effectiveness	Affected Environmental Components
Structures would visually contrast with surrounding landscape.	Paint all permanent structures a flat non-contrasting color harmonious with adjacent landscape and critical viewpoints. Exceptions would be color schemes required for safety reasons.	60% effective in reducing visual contrast as seen from critical viewpoints.	Visual Resources Recreation Resources
Plant processing emissions would degrade air quality.	Employ the use of the Best Available Control Technology (BACT) for the processing design and assure facilities are within limits of air quality class. (Source: National Ambient Air Quality Standards.)	99% effective in sulfur recovery and and in limiting SO_2 emission rates.	Air Quality
Construction of Chevron's storage/loadout facility would disturb deer approximately 150.0 acres of crucial winter range.	No construction activity should be allowed between October 15 and May 15 unless authorized by the Area Manager.	100% effective in eliminating disturbance from construction activity during those periods identified as being crucial to wintering big game.	Terrestrial Wildlife

CHAPTER IV
CONSULTATION AND COORDINATION

Team Organization

This EA was written by a three-person core team with assistance from an interdisciplinary team. The core team was primarily responsible for preparing this document with technical guidance and interdisciplinary input from the special assistance team. Table IV-1 lists the preparers of this EA.

Coordination in Preparation of the Proposed Action

The proposed action as stated in Chapter I includes pertinent information from the proposals submitted by Amoco Production Co. and Chevron U.S.A., Inc. A BLM interdisciplinary team reviewed the proposals and then submitted to each company a written list of questions concerning the proposed action. Chevron responded in writing to the questions February 27, 1980, and BLM representatives met with Amoco officials in Denver February 19, 1980, and at the Rock Springs District Office March 20, 1980, to discuss answers to the list of questions. Various aspects of land use, resource management, and other activities in the project area are addressed directly or indirectly in memoranda of agreement or understanding between BLM and county, State, and other Federal agencies.

Public Consultation and Coordination

A meeting was held March 19, 1980, with livestock operators in the Cumberland/Uinta Allotment to discuss the effects of the proposed action on livestock grazing in the area and mitigation of those effects. Nineteen ranchers attended the meeting in the Rich County Courthouse, Randolph, Utah. The EA team leader conducted the meeting, and representatives of Amoco and Chevron presented the proposals of their respective companies.

During the preparation of the Draft EA, the following agencies were consulted: Bear Lake Regional Commission, Evanston City Administrator, Federal Energy Regulatory Commission, Lincoln County Planner, Lincoln-Uinta Association of Governments, Lincoln County Commissioners, Uinta County Commissioners, Uinta County Planner, Union Pacific Railroad, Utah Power and Light, U.S. Fish and Wildlife Service, U.S. Geological Survey, Utah Division of Wildlife Resources, Wyoming Department of Environmental Quality, Wyoming Game and Fish Department, and Wyoming Siting Council, as well as Amoco and Chevron.

BLM requested socioeconomic input for the draft document from various city and county officials. Three responses were received, and they are shown in Appendix 7 of this document.

Public Participation

A news release was distributed March 28, 1980, to media in the State of Wyoming and the surrounding region announcing that the Bureau of Land Management was seeking public comments and input into the Draft EA. The draft was made available for public review April 7-18, 1980, at the following locations:

City Planning Office
1200 Main Street
Evanston, Wyoming

Lincoln County Planning Office
Courthouse
Ninth and Sage
Kemmerer, Wyoming

Uinta County Planning Office
Courthouse
225 Ninth Street
Evanston, Wyoming

Bureau of Land Management
Wyoming State Office
Branch of Records and Data Management
2515 Warren Avenue
Cheyenne, Wyoming

Bureau of Land Management
Rock Springs District Office
Highway 187 North
Rock Springs, Wyoming

Table IV-1

LIST OF PREPARERS

Name	EA Assignment	Position/Expertise	Education	Experience
Matthew R. Brennan	Team Leader	District Environmental Coordinator	B.S. Forestry, Utah State University	4 years - BLM 2 years - BIA
Jon M. Dolak	Core Team	Salt Wells R.A. Realty Specialist	B.S. Forestry and Range Management, Colorado State University	11 years - BLM
Ronald C. Herdt	Core Team	District Technical Writer/Editor	B.A. Secondary Education, University of Northern Colorado	3 years - BLM 6 years - University of Colorado
Robert E. Currier	Wyoming State Office EA Coordinator	Assistant Manager-Special Environmental Assessment Projects	B.S. Plant Science, University of Wyoming	14 years - BLM
Anita M. Todd	Core Team	Mag Card II Typist/ AM Text 425 Operator	1 year College of Southern Idaho AM Text 425 Training	2 years - BLM
Betty J. Nickerson	Core Team	Mag Card II Typist/ AM Text 425 Operator	AM Text 425 Training Mag Card II Training	17½ years - Air Force 3½ years - BLM
Debbie L. Calvert	Core Team	Mag Card II Typist/ AM Text 425 Operator	2 years Southeast Missouri State University	6 months - BLM
John C. Lytle	Special Assistance Team	District Archeologist	B.A. Anthropology, University of Wyoming, and M.A. Anthropology, University of Kansas	3 years - BLM
Colin W. Voigt	Special Assistance Team	District Soil Scientist	B.S. Agronomy, University of Kentucky	1 year - BLM
Steven C. Hamp	Special Assistance Team	District Hydrologist	B.S. Sociology and Geology, Illinois State University and M.S. Watershed, University of Arizona	1 year - BLM
Charles R. Crockett	Special Assistance Team	District Range Specialist	B.S. Agriculture, University of Arizona	11 years - BLM
Jerry A. Wilfong	Special Assistance Team	District Outdoor Recreation Planner	B.S. Forestry, University of Idaho	8 years - BLM
Bruce W. Baker	Special Assistance Team	District Wildlife Management Biologist	B.A. Biology, California State University at Northridge; M.S. Wildlife Management, Humboldt State University, and PhD, Wildlife Ecology, Texas A&M	1 year - BLM
Joe W. Lowe	Special Assistance Team	Wildlife Management Biologist	B.S. Wildlife Ecology, Texas A&M	1 year - BLM
Bruce H. Smith	Special Assistance Team	District Fisheries Biologist	B.S. Fish and Wildlife Management, University of Wyoming	6 years - BLM 2 years - Peace Corps
Donald L. Dutcher	Special Assistance Team	District Planning Coordinator	B.A. Liberal Arts, Whitman College, and M.A. Public Administration, University of Oklahoma	6 months - BLM 8 years HUD
Peggy S. Windchief	Special Assistance Team	Kemmerer R.A. Realty Technician	B.S. Business Administration, Utah State University	3 years - BLM 5 years - FS 2 years - BIA
Michael L. Braley	Special Assistance Team	Kemmerer R.A. Outdoor Recreation Planner	B.A. and M.A. Business Administration, Baylor University	2 years - BLM 1 year - NPS
Richard D. McOnistion	Special Assistance Team	Kemmerer R.A. Wildlife Management Biologist	B.S. Wildlife and Fisheries Management, Texas A&M University	5 years - BLM
J. Clare Miller	Special Assistance Team	Surface Protection Specialist	B.S. Botany, Weber State College	9½ years - BLM

Bureau of Land Management
Kemmerer Resource Area
Highway 189, Across From Port of Entry
Kemmerer, Wyoming

Coordination With Other Agencies

It is anticipated that consultation with the State Historic Preservation Office (SHPO) would be required during the site-specific analysis of the railroad right-of-way (Chapters II and III-Cultural Resources). SHPO has recommended that BLM proceed with the determination of National Register eligibility for that portion of the Oregon Trail which could be affected by the proposed railroad route.

BLM has requested consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act of 1973 regarding bald eagle roosting habitat and black-footed ferret habitat (Appendix 5).

Preparation of this EA was coordinated with the BLM Salt Lake District. The Section 7 consultation with the U.S. Fish and Wildlife Service, initiated by the Rock Springs District, includes the endangered species concerns in both Utah and Wyoming. The Salt Lake District provided general wildlife habitat information concerning the Crawford Mountain area in Utah.

The Utah Division of Wildlife Resources and the Wyoming Department of Game and Fish provided wildlife information for the document, and BLM would coordinate with these state agencies on site-specific actions in which the respective agencies would be concerned.

Public Review Comments

Copies of the Draft EA were sent to Federal agencies, State agencies, county and local officials, for their review and comment. Public and agency comments were considered in the preparation of the Final EA.

As of May 12, 1980, official comments from the State of Wyoming had not been received by the BLM Rock Springs district Office. Those concerns and input of individual State agencies that were known by BLM were considered and all pertinent data were incorporated into the Final EA.

Comments on the Draft EA were received from Amoco Production Company, Chevron U.S.A. Inc., Uinta County Planner, Dennis Farley, and the Utah Division of Wildlife Resources. Their comments, which are summarized below, were considered and all comments and information considered valid for this document have been incorporated.

The Utah Division of Wildlife Resources noted that sage grouse nesting-strutting areas and big game crucial winter range in Utah were not included on Map II-2 or in the Chapter II or III narrative. The Division recommends that the proposed railroad be located as close to the Utah-Wyoming state line as possible to avoid disturbance of the sage grouse complexes in Utah, and that human activity be restricted to "essential uses only" to prevent unnecessary disturbance to big game and sage grouse. The Division said construction should not occur on big game winter range from December 15-May 15 and on sage grouse use areas from March 15-July 15.

Dennis Farley felt that the socioeconomic impacts of the projects, especially those of the peak construction workforces would be greater than previously believed, and that these impacts should be addressed in greater detail in the EA.

Chevron expressed concern about the mitigation measure which would limit construction on big game winter ranges during the critical months of use by wildlife. Noting that this could delay the plant's starting operations by up to one year or require an even larger workforce during the summer, Chevron proposes to continue work at the loading site without the use of earthmoving or heavy equipment and would not progress with water line or railroad construction during the critical months. Chevron's proposed work within the fenced loadout site at this time would include tank building, boiler installation, and piping and utilities installation.

Amoco submitted comments clarifying EA statements on its proposal and proposed operations, as well as expressing concern about certain Chapter II and Chapter III statements on water resources, vegetation, wildlife, cultural resources, and livestock grazing. Amoco stated it has neither proposed nor anticipated actions which would infringe on the flood plains; felt that allegations of harassment of livestock should be supported by fact; questioned the relevancy of mitigation to avoid project conflicts with seasonal livestock moavements in areas of constrictive topography; and disagreed with BLM's method used to determine the estimated number of prehistoric sites that could be encountered during project construction.

Amoco felt that statements by the BLM that the construction of a railroad through the Woodruff Lower Narrows "will affect" bald eagles are premature and prejudge the U.S. Fish and Wildlife Service's conclusions and recommendations. Amoco made similar contentions about BLM assessments of possible

black-footed ferret habitat. Amoco noted inconsistencies in the text and Table III-4, and had numerous questions concerning the mitigation measures for terrestrial wildlife. Disagreement with the significance placed on the northern wintering area for big game and the anticipated impact on aquatic wildlife were among the other wildlife comments made by Amoco. Short-term and long-term impacts on vegetation as cited by BLM and mitigation of the impact on vegetation also were addressed by the company.

APPENDIX I
LIST OF STANDARD STIPULATIONS

Instructions

Introduction

Enclosure 1 contains a list of standard right-of-way stipulations which are divided into eleven separate sections. The "General" section (Section 1) includes a list of stipulations which are to be included in each right-of-way. These stipulations will always be the first 6 stipulations attached to each right-of-way grant. The remaining sections (Sections II through XI) are divided into four general categories--construction, rehabilitation, operation, and abandonment. The use of the stipulations in Sections II through XI will vary with the type of action under consideration and, in some cases, with the resource values present. The District/Area Manager is responsible for ensuring that the appropriate set of standard stipulations are developed.

Checklist or Matrix for Developing Right-of-Way Stipulations

This checklist is a guide for developing a specific set of stipulations. The type of stipulation is shown along one side and the type of right-of-way is shown across the top. The stipulations that would normally be used are shown in the body of the matrix. For example, a permit for a temporary road would normally contain those stipulations listed in the column below the temporary roads heading.

As stated previously, this checklist is to be used as a guide for developing stipulations. The individual preparing the right-of-way or permit is responsible for analyzing the action and for incorporating the appropriate stipulations. For example, the stipulations listed under the overhead powerlines column do not contain any stipulations covering temporary road access. If temporary road access is required for construction of an overhead powerline, the individual preparing the stipulations must incorporate the necessary stipulations to cover road construction and rehabilitation.

Special Stipulations

This enclosure contains a list of standard stipulations, and it is not intended to provide stipulations to cover every possible situation. District/Area Managers are responsible for preparing any special stipulations required to mitigate unusual impacts. If a unique situation should arise that requires additional stipulations not covered in the standard list, they may be developed. Do not reword any stipulations already developed.

Exhibits

One of the most significant differences between this approach and our present procedures is the level of detail required by these stipulations. Many of the standard stipulations require that location or locations be specifically identified within the stipulation. Specific locations can be identified in numerous ways, and the one most appropriate for the action and the stipulation should be selected.

In most instances, the use of a legal description or a station location is preferred, but a narrative or exhibit may be more appropriate. If a narrative is used, it should be clear and concise. Avoid rambling narratives. If exhibits (maps, drawings, etc.) are planned as part of a stipulation, they should be properly prepared, and all exhibits must be reproducible. Each exhibit must clearly show that portion of the right-of-way affected by the stipulation. Each exhibit must have a legend which clearly shows all locations affected by the stipulation, and the appropriate township and range must also be shown. In most cases, the original copy of the exhibit will be needed for reproduction.

Checklist or Matrix for Developing Right-of-Way Stipulations

Types of Stipulation	Type of Right-of-way: Pipelines/ Buried Cable		Overhead Powerlines		Temporary Roads		Permanent Roads		Communication Sites	
	Sec.	Stip	Sec.	Stip.	Sec.	Stip.	Sec.	Stip.	Sec.	Stip.
General	Stipulations IA through Stipulation IF are required for all actions									
Construction Engineering details	II	B	II	C	II	A	II	A	II	B
Construction Schedule	Stipulation IIIA should be used as needed for all actions.									
Construction Access	Stipulation IVA should be used as needed for all actions.									
Site Preparation	V	A	Use as needed		V	A	V	A	V	A
	V	E	Use as needed		V	E	V	E	V	E
Topsoil	VI	A	Use as needed		VI	A	VI	A	VI	A
Improvements	Stipulations VIIA through VIID should be used as needed for all actions.									
Construction Special Stips.	Stipulations VIIIA through VIIIG should be used as needed for all actions.									
Rehabilitation Restoration	IX	A	Use as needed		IX	A	IX	A	IX	A
Erosion Control	IX	B	Use as needed		IX	B	IX	B	IX	B
Topsoil	IX	C	Use as needed		IX	C	IX	D	IX	C
Reseeding	IX	F	Use as needed		IX	F	IX	F	IX	F
Mulching	IX	G	Use as needed		IX	G	IX	G	IX	G
Aesthetics	Stipulations IXE, IXH, and IXJ should be used as needed.									
Waste Removal	Stipulation IXK should be used as needed.									
Operation/ Maintenance	Stipulations XA through XD should be used as needed.									
Abandonment	Stipulations XI-A and XI-B should be used as needed.									

I. General (These stipulations will be used in all right-of-way grants)

A. This (right-of-way, permit) is subject to all applicable regulations contained in 43 CFR 2800 as they now exist or as they may hereafter be revised. By signing below, the (grantee, permittee) agrees to abide by these regulations and by the following stipulations. The regulations in 43 CFR 2800 relating to this (grant, permit) are not repeated in the following stipulations. A copy of the applicable regulations will be provided upon request.

B. Any cultural resource (historic or prehistoric site or object) discovered by the (grantee, permittee), or any person working on his behalf, shall be immediately reported to the authorized officer. (Grantee, permittee,) shall suspend all operations in the area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the BLM to determine appropriate actions to prevent the loss of significant cultural values. The BLM will be responsible for the cost of evaluations and for mitigation unless otherwise stated in these stipulations.

C. (Grantee, permittee) shall conduct all activities directly or indirectly associated with the construction, operation, and maintenance of this facility within the limits of this (right-of-way, permit). In the event that areas outside of the (right-of-way, permit) are needed, (grantee, permittee) shall obtain a separate authorization for that use.

D. The (grantee, permittee) shall comply with the applicable Federal and State laws and regulations concerning the use of pesticides (i.e., insecticides, herbicides, fungicides, rodenticides, and other similar substances) in all activities and operations under this (grant, permit). Emergency use of pesticides may occur with written approval from the authorized officer. A pesticide shall not be used if the Secretary of the Interior has prohibited its use. A pesticide shall be used only in accordance with its registered uses and within other limitations if the Secretary has imposed limitations. Pesticides shall not be stored on public lands.

E. (Grantee, permittee) shall construct, operate, and maintain the facilities and structures within this (grant, permit) in strict conformity with the descriptive and technical data which was furnished the Bureau of Land Management in connection with the application for this grant, permit). Any relocation, additional construction, or use which is not in accord with such data may not be initiated without the prior written approval of the authorized officer. A copy of the complete application and a copy of the (grant, permit) stipulations shall be available on location during construction and rehabilitation to all supervisory personnel and to the authorized officer. Noncompliance with the above will be grounds for the authorized officer to shut down the operation until compliance is obtained.

F. (Grantee, permittee) shall schedule and attend a preconstruction conference with the authorized officer or his representative prior to commencing any construction activities on this (right-of-way, permit). The (grantee, permittee) or his representative and all of his contractors or agents involved with construction under this (right-of-way, permit) shall attend this conference. The (grantee, permittee) shall contact the authorized officer or his representative at least _____ days prior to the anticipated start of construction to schedule this conference. The authorized officer is the BLM District Manager. His designated representative for this (right-of-way, permit) is:

Name and Title: _____

Address: _____

_____

_____

Telephone Number: _____

OR

(Grantee, permittee) shall contact the authorized officer or his representative at least ____ days prior to the anticipated start of construction. Grantee shall provide the name, address, and telephone number of his representative in charge of construction and provide a construction schedule before starting any construction activities associated with this (right-of-way, permit). The authorized officer is the BLM District Manager. His representative for this (right-of-way, permit) is:
Name and Title: _____
Address: _____
_____
_____
Telephone Number: _____

G. (Other special stipulations as needed).

NOTE: The stipulations contained in the following sections are to be used as shown in the checklist or matrix when applicable to a site-specific situation. These stipulations will be added to the stipulations in Section I.

II. Construction Engineering Details

A. (Grantee, permittee) shall furnish the authorized officer with engineering drawings of the existing ground profile and plan and profile views of the (right-of-way, permit) at least _____ days prior to construction. These drawings must portray typical cross sections (i.e., cut, fill, bench sections, etc.) at representative points along the (right-of-way, permit) and all proposed drainage and erosion control facilities including, but not limited to, culverts, low-water crossings, rock riprap, hay or straw bale silt traps, or stilling basins must be shown.

B. (Grantee, permittee) shall furnish the authorized officer with engineering drawings of the existing ground profile and plan and profile views of the facilities to be constructed under this (right-of-way, permit) at least _____ days prior to construction. These drawings must portray typical cross sections (i.e., cut, fill, bench sections, etc.) at representative points along or within the (right-of-way, permit).

C. (Grantee, permittee) shall meet all the requirements contained in Suggested Practices for Raptor Protection on Powerlines. Prior to construction, (grantee, permittee) shall provide the authorized officer with drawings which show phase spacings, configurations, and grounding practices for this power distribution line. (Grantee, permittee) shall modify any structures not in conformance with Suggested Practices for Raptor Protection on Powerlines as determined by the authorized officer.

III. Construction Schedule

A. In order to (minimize watershed damage, protect important seasonal wildlife habitat, etc.) construction activity and surface disturbance will be allowed during the period from _____ to _____. This limitation does not apply to maintenance and operation of this (right-of-way, permit). Any exceptions to this requirement must be authorized in writing by the authorized officer.

IV. Construction Access

A. During construction (grantee, permittee) shall regulate access and vehicular traffic as required to protect the public, wildlife, and livestock from hazards associated with the project. (Grantee, permittee) shall permit free and unrestricted public access to and upon the (right-of-way, permit) except in areas designated as restricted by the (grantee, permittee). All restricted areas shall be approved in writing by the authorized officer.

V. Site Preparation

A. Grantee, permittee) shall thoroughly clear and strip all roots, stumps, woody plant materials over three feet high, and other similar type material from the surface area to be covered by embankments and disturbed by cuts. All clearing work shall be completed without mixing topsoil with vegetative material. All cleared material not suitable for placement in embankments shall be disposed of in the following manner:

(Specify method of disposal)

AND/OR

(Grantee, permittee, etc.) shall clear all vegetative material under three feet high by (blading, brush beating).

(Note: Either one or both stipulations may be used in the grant.)

B. No right-of-way clearing is allowed.

C. Right-of-way clearing prior to beginning construction shall be limited to _____ feet on each side of the centerline (see note below).

(Note: The phrase "on each side of the centerline" can be replaced with "on the extreme left or right side of the right-of-way" as circumstances warrant.)

D. No surface disturbance or construction activity shall be allowed within _____ feet of the (specify road, trail, river, creek, canal, etc.). Any deviations from this requirement must be approved in writing by the authorized officer.

E. (Grantee, permittee) shall place slope stakes, culvert location and grade stakes, and any other construction control stakes necessary to insure construction of this (road, pipeline, powerline, etc.) in accordance with all the technical information submitted with this (right-of-way, permit, etc.). If stakes are disturbed for any reason prior to or during clearing or topsoil removal, they shall be replaced before proceeding with the construction of the (road, powerline, etc.).

F. (Grantee, permittee) shall construct low water crossings at the following locations: _____. All low water crossings shall be constructed to prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossing at the following location _____ _____.

VI. Topsoil

A. Topsoil shall be stripped to a depth of _____ inches. A total of _____ cubic yards of topsoil will be stockpiled at the following locations:

(Specify location)

(Note: Topsoil need not be stripped if the operator is using an auger-backfiller as part of the equipment on a pipeline project.)

VII. Improvements

A. Functional use of all livestock and other public improvements must be maintained at all times. Before cutting through the fence located in (specify location), (grantee, permittee) shall firmly brace the fence on both sides of the cut. During construction, (grantee, permittee) will install and maintain a (specify a gate, cattleguard, etc.). After construction is complete, (grantee, permittee) shall (remove all facilities installed during construction and replace the fence across the right-of-way; or leave the improvements installed during construction, etc.).

B. The _____ (specify fence, reservoir, etc.) within the right-of-way will not be disturbed during construction, operation, and maintenance of this right-of-way.

C. (Grantee, permittee) shall relocate the (specify fence, road, etc.) located in (specify location) prior to construction. All relocation activities shall be done in accordance with standards directed by the authorized officer.

D. (Grantee, permittee) shall remove and salvage all existing culverts in accordance with instructions from the authorized officer.

VIII. Construction Special Stipulations

A. (Grantee, permittee) shall protect all survey monuments, witness corners, reference monuments, and bearing trees within this (right-of-way, permit) against disturbance during construction, operation, maintenance, and rehabilitation. If any monuments, corners, or accessories are destroyed, obliterated, or damaged during construction, operation, or maintenance, (grantee, permittee) shall secure the services of a Registered Land Surveyor to restore the disturbed monuments, corners, or accessories, at the same location, using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands of the United States, latest edition. (Grantee, permittee) shall record such survey in the appropriate county and shall send a copy to the Wyoming State BLM Office, P.O. Box 1828, Cheyenne, Wyoming 82001.

B. (Grantee, permittee) shall obtain an access permit from the Wyoming Highway Commission for the approach to (State or U.S. Highway - specify highway number) prior to commencing any construction activity associated with the (grant, permit).

C. (Grantee, permittee) shall be responsible for preventive and corrective road maintenance from the beginning to completion of operations under this (grant, permit). This may include, but not be limited to, blading roadway, cleaning ditches and drainage facilities, dust abatement, or other requirements as directed by the authorized officer.

D. Prior to any surface disturbing activity, (grantee, permittee) will provide an archeologist, approved by BLM, to map and make an intensive surface collection of the prehistoric site located in:

_____Sec. _____, T. _____N., R. _____W.,

_____Sec. _____, T. _____N., R. _____W.,

_____Sec. _____, T. _____N., R. _____W.

The archeologist will inform the authorized officer of his intent to begin work at least _____ working days before going into the field. A report of all activities of the archeologist will be submitted to BLM within _____ days following completion of field work.

E. Prior to any surface disturbing activities, the (grantee, permittee) will provide an archeologist, approved by the BLM, to conduct excavations at the following site locations:

_____Sec. _____, T. _____N., R. _____W.,

_____Sec. _____, T. _____N., R. _____W.

The archeologist will notify the authorized officer of his intent to begin excavations at least _____ working days prior to beginning work. The archeologist will complete further excavations such that he will be able to define the vertical and horizontal extent of the site, and the nature and relationships of the cultural assemblages present. The archeologist will recover any information necessary to mitigate the loss of the site. A final report of all activities of the archeologist will be provided to BLM within _____ days completion of the field work.

F. The (grantee, permittee) will provide an archeologist, approved by BLM, to monitor surface disturbing activities at the following locations:

_____, Sec. _____, T. _____N., R. _____W.,

_____, Sec. _____, T. _____N., R. _____W.,

_____, Sec. _____, T. _____N., R. _____W.

The archeologist will notify the authorized officer at least three working days prior to site monitoring. Prior to any surface disturbing activity, the archeologist will make a sketch map of the site area and an intensive surface collection. If any potentially significant buried resources are identified, and the archeologist determines that further operations will seriously affect the cultural resource, work will be suspended, and BLM will evaluate the resource and develop additional stipulations as needed. The cost of avoidance or salvage of any cultural resource identified by the archeologist will be that of the (grantee, permittee). A report of all activities of the archeologist will be submitted to BLM within _____ days following completion of the monitoring.

G. Prior to any surface disturbing activity, the (grantee, permittee) will provide an archeologist (approved by BLM) to map, to make an intensive surface collection, and to conduct test excavations of the following locations:

_____, Sec. _____, T. _____N., R. _____W.,

_____, Sec. _____, T. _____N., R. _____W.

The archeologist will notify the authorized officer of his intent to begin test excavations a minimum of _____ working days prior to beginning work. Test excavations will be conducted such that the archeologist will recover a maximum amount of data from the area of the proposed action and enable the archeologist to make a determination of eligibility for nomination to the National Register of Historic Places. A report of all archeological activities, including a determination of eligibility, will be submitted to BLM within 30 days following completion of field work. No surface disturbing activity will take place prior to BLM's evaluation of the report and development of additional stipulations as required. Authorization for the operator to proceed will be issued by the authorized officer. A final report (if necessary) will be submitted to BLM within _____days following completion of field work.

IX. Rehabilitation

A. (Grantee, permittee) shall restore all disturbed areas including temporary access roads to the original contour. Where this is not possible, the authorized officer may permit grading of cut and fill slopes to conform with the adjacent terrain.

B. After site restoration, (grantee, permittee) shall construct erosion control devices such as waterbars, terraces, relief culverts and ditches, silt traps, etc., at the following locations:

(Specify location)

C. After completion of final grading (grantee, permittee) shall scarify the disturbed area before replacing topsoil. (Grantee, permittee) shall distribute stockpiled topsoil uniformly over the disturbed area, and shall disk or scarify topsoil to prepare a suitable seedbed.

D. (Grantee, permittee) shall uniformly spread topsoil over all disturbed areas outside the ditchlines and shall reseed these areas in accordance with Stipulation _____ (specify reseeding stipulation number). Where topsoil cannot be spread on cut and fill slopes, (grantee, permittee) shall reseed these slopes by the hydroseed method and shall stockpile and conserve topsoil for use in final rehabilitation upon abandonment of the road. Topsoil shall be stockpiled for use in final rehabilitation at the following location(s):

(Specify location)

E. (Grantee, permittee) shall paint all permanent structures (on site for a period longer than 90 days after construction) a flat, noncontrasting color harmonious with the adjacent landscape. Exceptions to this requirement are small structures which are not readily visible from a distance of approximately one quarter of a mile such as wire and small pipe or structures which, because of OSHA requirements, require safety coloration. Specific colors appropriate for the various landscapes are identified below:

(Specify colors and location)

F. (Grantee, permittee) shall seed all disturbed areas with the seed mixture listed below. Ninety percent pure live seed shall be used. The seed shall be applied by a drill equipped with a depth regulator. Planting depth shall not exceed one-half inch. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. It is recommended that seeding be done during the months of September or October following construction completion. The seeding will be repeated until a satisfactory stand, as determined by the authorized officer, is obtained. Evaluation of growth will not be made before completion of the first growing season after seeding. The authorized officer is to be notified 15 days prior to seeding so that arrangements can be made for inspection of the seeding project.

Seed Mixture:	Drilled	Broadcast (twice the drilled rate)

G. (Grantee, permittee) shall mulch all disturbed areas. The type and method of mulching is specified below:

(Specify type and method)

H. Immediately upon completion of construction, the (grantee, permittee) shall clearly post at the site the BLM number assigned to this (grant, permit).

I. (Grantee, permittee) shall use nonreflecting lines and conductors at the following location(s) to reduce reflection and visibility:

(Specify locations)

J. All facilities constructed under this (right-of-way, permit) shall have dull or nonreflective finishes that harmonize with the adjacent natural setting. Nonreflective conductor cable will be used throughout the length of this power distribution line.

K. (Grantee, permittee) shall promptly remove and dispose of all waste caused by its activities as directed by the authorized officer. The term "waste" as used herein means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment. Wastes shall be disposed of as follows:

(Specify manner of disposal)

X. Operation/Maintenance

A. (Grantee, permittee) shall not use mechanical or chemical vegetal control measures in the riparian zone along (specify river, stream, meadow, secondary drainage, etc.) located in (specify location). Any exceptions to this requirement must be authorized in writing by the authorized officer.

B. (Grantee, permittee) shall regularly maintain the (road, powerline, etc.) in a safe, usable condition. A regular maintenance program shall include, but not be limited to, (blading, ditching, culvert installation, drainage installation, surfacing, patrolling, etc.). (Grantee, permittee) shall notify the authorized officer within _____days after construction of his plans for maintaining the (road, powerline, etc.) under this (right-of-way, permit).

C. After construction is complete, (grantee, permittee) shall not use the right-of-way as a road for purposes other than routine maintenance unless constructed to standards established by the authorized officer.

D. (Grantee, permittee) shall conduct all snow removal and snow berm construction on areas outside of the (right-of-way, permit) or on revegetated areas in a manner which will not disturb the surface of the ground. To prevent any surface disturbance, all equipment used for snow removal operations shall be equipped with shoes to keep the blade _____ inches off the ground. (Grantee, permittee) shall take special precautions where the surface of the ground is uneven and at all drainge crossings to ensure that equipment blades do not touch the ground surface.

XI. Abandonment

A. Prior to abandonment of the (grant, permit), the (grantee, permittee) shall contact the authorized officer to arrange a joint inspection of the (grant, permit) area. The inspection will be held to agree on acceptable abandonment and rehabilitation plan. The authorized officer must approve the plan in writing prior to the (grantee, permittee) commencing any abandonment and rehabilitation activities.

B. The plan shall include, but not be limited to, removal of facilities, drainage structures, or surface material; recontouring; replacement of topsoil; seeding; mulching; etc.

Enclosure 2

Oil and Natural Gas Pipelines

Instructions

Enclosure 2 develops the plan for construction, operations, maintenance, and termination for use as a stipulation. Each District/Area Manager will be responsible for determining the adequacy of the plan submitted by the applicant. The level of detail required can vary with different projects, with the extent of surface disturbance, and with the presence or absence of other critical resource values.

When the plan is approved by the Area Manager, it will become the controlling document for activities associated with the right-of-way grant. The example found in Enclosure 2-7 will become the standard right-of-way stipulations for oil and natural gas pipelines.

The remaining portions of Enclosure 2 contain outlines for the construction, maintenance, operation, and termination plans for other type rights-of-way. Proposed rulemaking for other type rights-of-way under Title V of FLPMA only require a plan when the authorized officer determines that an environmental impact statement is required.

Guidelines and Outline for Preparing a
Construction and Operations Plan Under
43 CFR 2882.2-4(c)

The applicant will prepare and submit with the right-of-way application a plan for the construction, operation, maintenance, and termination of the pipeline system. The plan must be approved by the District or Area Manager before any activities begin on the ground. The level of detail required and items to be covered in the plan will be determined prior to filing the application and after a meeting between the applicant and the appropriate field personnel. The plan shall include at a minimum the following items:

I. Construction

A. Engineering details which include:

1. Existing ground profile-centerline.

2. Plan and profile views of the pipeline centerline (including topsoil storage locations).

3. Typical cross sections at representative points; i.e., cuts and fills, drainage crossings, sidehills.

4. Equipment and material staging areas. Identify the location of these areas which are needed outside the right-of-way.

B. Construction Schedule

1. Anticipated starting and completion dates and schedule of work of all pipeline facilities and estimated construction costs.

C. Access Requirement

1. Existing Roads. A legible map (USGS topographic or other map acceptable to the authorized officer) shall be used for locating access at all points along the right-of-way. Any plans for the improvement and/or maintenance of existing roads should be stated.

2. Planned Access Roads. Information in this regard is to be submitted on a USGS topographic or other map acceptable to the authorized officer and shall appropriately identify all permanent and temporary access roads which are to be constructed or reconstructed in connection with the right-of-way.

D. Site Preparation

1. Clearing and Grubbing. The maximum width of area to be cleared shall be identified. The surface area to be covered by embankments and the surface of cuts shall be thoroughly cleared and stripped of all roots, stumps, woody plant materials over 3 feet high, and other objectionable material. The work shall be accomplished to avoid the removal and mixing of topsoil with the vegetative material. The plan shall address the proposed method for disposal of the cleared material.

2. Topsoil. Topsoil shall be stripped to a depth of ____ inches. Include quantity (cubic yards) of topsoil to be stockpiled. Calculations are based upon total disturbed area.

3. Improvements. Functional use of improvements must be maintained at all times. Anticipated disturbance of fences, gates, cattleguards, reservoirs, cadastral survey markers, and other improvements should be identified.

II. Rehabilitation

The right-of-way shall be restored as nearly as practical to the original contour. Where this is not possible, cut and fill slopes will be graded to conform the site to the adjacent terrain. Waterbars and terracing will be used as needed to prevent erosion. Upon completion of final grading, the entire area shall be scarified prior to replacing topsoil. Stockpiled topsoil shall be uniformly distributed over the disturbed areas and disked or scarified to provide a suitable seedbed. Specifically, the plan shall address:

A. Proposed layout and contours of restored topography.

B. Restoration of drainage systems including proposed erosion control measures.

C. Replacement of topsoil.

D. All disturbed areas are to be seeded with the seed mixture listed below. Ninety percent pure live seed is to be used. The seed shall be applied by a drill equipped with a depth regulator. Planting depths shall not exceed one-half inch. Seeding is to be conducted dur ng the months of September or October following construction completion. Seeding will be repeated until a satisfactory stand, as determined by the authorized officer, or his delegate, is obtained. Where drilling is not possible, seed shall be broadcast and the area raked or chained. The authorized officer of the Bureau of Land Management is to be notified 15 days prior to seeding in order that arrangements can be made for inspection of the seeding project.

Seed Mixture:

E. Mulching

All disturbed areas shall be mulched. Methods of mulching shall include one of the following: native hay, hay of introduced grass species, small grain straw, wood fiber, live mulch, cotton, jute, or synthetic netting, and hydromulch. The plan should discuss the mulching method to be used.

F. Restoration of Improvements

Methods for restoration of any disturbed improvements such as cattleguards, gates, reservoirs, etc., shall be identified.

III. Maintenance

A. Explanation of recurring activities; i.e., maintenance of settling pipeline trench, active erosion, etc.

B. Access Requirements. Access roads within the right-of-way require specific written approval from the authorized officer. A separate authorization will be required for an access road which cannot be constructed within the right-of-way. The plan shall identify the roads which will be needed during this phase, and the proposed maintenance schedule for those roads.

C. Emergency Stipulations. The plan will identify the process for emergency repair of any rupture during operation, including containment of effluent and restoration of damage. More specifically, the plan will specify the following:

1. Spills. Plans for confinement, cleanup, and rehabilitation of any spills.

2. Contact: Applicant contact when an emergency situation is identified by the BLM:

Name:
Address:
Phone:

D. Aesthetics

1. Painting and upkeep of surface improvements; i.e., pumping station painting, fencing, etc.

IV. Abandonment

Abandonment procedures will be submitted to the authorized officer at least 1 year prior to expiration or termination of the grant.

EXAMPLE OF
STANDARD STIPULATIONS
OIL AND NATURAL GAS PIPELINES

(To be included on all grants and permits)

1. This right-of-way is subject to all applicable regulations contained in 43 CFR 2800 as they now exist or as they may hereafter be revised. By signing below, the grantee agrees to abide by these regulations and by the following stipulations. The regulations in 43 CFR 2800 and 43 CFR 2880 are not repeated in the following stipulations. A copy of the applicable regulations will be provided upon request.

2. Any cultural resource (historic or prehistoric site or object) discovered by the grantee, or any person working on his behalf, shall be immediately reported to the authorized officer. Grantee shall suspend all operations in the area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the BLM to determine appropriate actions to prevent the loss of significant cultural values. The BLM will be responsible for the cost of evaluations and for mitigation unless otherwise stated in these stipulations.

3. Grantee shall conduct all activities associated with this right-of-way within the limits of this grant. In the event that areas outside of the right-of-way are needed, grantee shall obtain a separate authorization for that use.

4. The grantee shall comply with applicable Federal and State laws and regulations concerning the use of pesticides (i.e., insecticides, herbicides, fungicides, rodenticides, and other similar substances) in all activities/operations under this grant. Emergency use of pesticides may occur with written approval from the authorized officer. A pesticide shall not be used if the Secretary of the Interior has prohibited its use. A pesticide shall be used only in accordance with its registered uses and within other limitations if the Secretary has imposed limitations. Pesticides shall not be stored on public land under this grant.

5. Grantee shall construct, operate, and maintain the facilities within this right-of-way grant in strict conformity with the descriptive and technical data which was furnished the Bureau of Land Management in connection with the application for this right-of-way. Any relocation, additional construction or use which is not in accord with such data may not be initiated without the prior written approval of the authorized officer. A copy of the complete application and a copy of the grant stipulations shall be available on location during construction and rehabilitation to all supervisory personnel and to the authorized officer. Noncompliance with this stipulation will be grounds for the authorized officer to terminate operations until compliance is obtained.

6. Grantee shall schedule and attend a preconstruction conference with the authorized officer or his representative prior to commencing any construction activities on this right-of-way. The grantee or his representative and all of his contractors or agents involved with construction under this right-of-way shall attend this conference. The grantee shall contact the authorized officer or his representative at least _____ days prior to the anticipated start of construction to schedule this conference. The authorized officer is the BLM District Manager and his designated representative is:

   Title _____
   Address _____
   _____
   Telephone # _____

7. Grantee shall conduct all construction, operation, maintenanace, and termination activities associated with this grant in accordance with the construction and operation plan submitted with application WY-00000, dated _____.

9. Other special stipulations as needed.

Guidelines and Outline for Preparing a
Construction and Operations Plan for
Permanent and Temporary Roads

The applicant will prepare and submit with the right-of-way application a construction, operation, maintenance, and termination plan. The plan must be approved by the District or Area Manager before any activities begin on the ground. The level of detail required and items to be covered in the plan will be determined prior to filing the application and after a meeting between the applicant and the appropriate field personnel. The plan shall include at a minimum the following items:

I. Construction

A. Engineering details, including:

1. Existing ground profile at the centerline.

2. Plan and profile views of road centerline (show topsoil storage locations).

3. Typical cross sections at representative points (i.e., cut, fill, and bench sections, etc.).

4. Culvert list, including diameter (18-inch minimum), length, and location (i.e., relief culverts, drainage crossings, etc.). Control of erosion is required at culvert inlets and outlets. Acceptable energy dissipators must be installed where needed. These may include, but not be limited to: (a) rock riprap, (b) hay or straw bale silt traps, (c) splash boxes, or (d) stilling basins.

5. Other drainage facilities (bridges, low water crossings, thank-u-mams, etc.).

6. Equipment and material staging areas. Locations of these areas needed outside the right-of-way.

B. Construction Schedule - Anticipated starting and completion dates and general schedule of work (if appropriate).

C. Construction materials and haul road.

1. Borrow - Proposed source, character, and use of all construction material such as sand, gravel, stone, and fill material.

2. Waste - Proposed method for disposal of excess cut or other waste materials.

3. Haul roads (if needed) - Location and construction standards.

D. Site Preparation

1. Clearing and grubbing - The surface area to be covered by embankments and disturbed by cuts shall be thoroughly cleared and stripped of all roots, stumps, woody plant materials over three feet high, and other objectionable material. The work shall be accomplished to avoid the removal and mixing of topsoil with the vegetative material. The plan shall address the proposed method for disposal of the cleared material.

2. Topsoil - Topsoil shall be stripped to a depth of _____ inches. Include quantity (in cubic yards) of topsoil to be stockpiled. Calculations are based on total disturbed area.

E. Anticipated disturbance of fences, cattleguards, reservoirs, and other improvements.

II. Rehabilitation

All disturbed areas shall be restored as nearly as practical to the original contour. Where this is not possible, cut and fill slopes shall be graded to conform the site to the adjacent terrain. Waterbars and terracing will be used as needed to prevent erosion. Upon completion of final grading, the entire area shall be scarified before replacing topsoil. Stockpiled topsoil shall be uniformly distributed over the disturbed areas and disked or scarified to provide a suitable seedbed.

Specifically, the plan shall address:

A. Temporary road (road that will be obliterated within one year).

1. Proposed layout and contours of restored topography.

2. Removal and disposal of drainage structures, restoration of drainage systems, and proposed erosion control measures.

3. Replacement of topsoil.

4. All disturbed areas are to be seeded with the seed mixture listed below. Ninety percent pure live seed shall be used. The seed shall be applied by a drill equipped with a depth regulator. Planting depth shall not exceed one-half inch. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. It is recommended that seeding be done during the months of September or October following construction completion. The seeding will be repeated until a satisfactory stand, as determined by the authorized officer, is obtained. Evaluation of growth will not be made before completion of the first growing season after seeding. The authorized officer is to be notified 15 days prior to seeding so that arrangements can be made for inspection of the seeding project.

Seed Mixture: Drilled Broadcast (twice the drilled rate)

The plan should discuss the seeding methods to be used.

5. Mulching

All disturbed areas shall be mulched. Methods of mulching shall include one of the following: native hay, hay of introduced grass species, small grain straw, wood fiber, live mulch, cotton, jute, or synthetic netting, and hydromulch. The plan should discuss the mulching method to be used.

6. The _____ (grantee's, permittee's) plans for final and interim restoration of improvements (fences, cattleguards, reservoirs, etc.) should be addressed.

B. Permanent Road (road that will be used more than one year).

1. Topsoil shall, wherever possible, be spread uniformly over all disturbed areas outside the ditch lines (cut and fill slopes) and these areas shall be reseeded in accordance with the reseeding requirements contained elsewhere in this document. Where topsoil cannot be spread on cut and fill slopes, the slopes shall be reseeded by the hydroseed method and excess topsoil shall be stockpiled and conserved for use in final rehabilitation upon abandonment of the road. The plan shall address areas to be topsoiled and seeding methods as well as plans for stockpiling and conserving topsoil not used in rehabilitation.

2. Methods of improvement restoration and maintenance for the duration of road use should be addressed. (Example: cattleguards and/or gates in fences.)

III. Maintenance

The (grantee, permittee) shall regularly maintain the road in a safe, usable condition. A regular maintenance program shall include, but not be limited to, blading, ditching, culvert and drainage installation and maintenance, and surfacing as needed. The plan should provide a complete narrative description of the (grantee's, permittee's) preventive and corrective maintenance program for the road.

IV. Abandonment

A. Temporary road - see Section IIA.

B. Permanent road - see Section IIA.

Topsoil placed on cuts and fills under Section IIB will be removed and stockpiled for redistribution after final recontouring.

Guidelines and Outline for Preparing a
Construction, Operation, and Maintenance Plan for
Power Distribution and Overhead Telephone Lines

The applicant will prepare and submit with the right-of-way application a construction, operation, maintenance, and termination plan. The plan must be approved by the District or Area Manager before any activities begin on the ground. The level of detail required and items to be covered in the plan will be determined prior to filing the application and after a meeting between the applicant and the appropriate field personnel. The plan shall include at a minimum the following items:

I. Construction

A. Design. The requirements of the booklet Suggested Practices for Raptor Protection on Powerlines will be met. Drawings must accompany the plan which show phase spacings, configurations, and grounding practices of the proposed line.

B. Engineering details to include:

1. Plan and profile view of typical pole installation. Illustration should show existing ground profile and typical cross section through pole base. (May be omitted if auger boring is only surface disturbance.)

2. Narrative description of techniques and equipment to be used for construction of the powerline.

3. Equipment and material staging areas. Location of these areas that are needed outside the right-of-way.

C. Construction Schedule

Anticipated starting and completion dates and schedule of work, if appropriate.

D. Access Requirements

1. If construction of an access road is necessary, a separate Design and Operations Plan for the road shall be submitted to the authorized officer. The plan must be approved before any construction begins.

E. Site Preparation

1. Clearing and Grubbing. All areas where earthwork will be performed during construction shall be thoroughly cleared and stripped of all roots, stumps, woody plant materials over three feet high, and other objectionable material. The work shall be accomplished to avoid the removal and mixing of topsoil with the vegetative material. The plan shall address the proposed method for disposal of the cleared material.

2. Topsoil. Topsoil shall be stripped to a depth of _____ inches. Include quantity (cubic yards) of topsoil to be stockpiled. Calculations are based upon total disturbed area.

3. Improvements. Anticipated disturbance of fences, gates, cattleguards, reservoirs, and other improvements. Functional use of improvements must be maintained at all times.

II. Rehabilitation

All disturbed areas shall be restored as nearly as practical to the original contour. Upon completion of final grading, the entire area shall be scarified. Topsoil shall be uniformly distributed over the disturbed areas and disked or scarified to provide a suitable seedbed.

A. All disturbed areas are to be seeded with the seed mixture listed below. Ninety percent pure live seed shall be used. The seed shall be applied by a drill equipped with a depth regulator. Planting depth shall not exceed one-half inch. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. It is recommended that seeding be done during the months of September or October following construction completion. The seeding will be repeated until a satisfactory stand, as determined by the authorized officer, is obtained. Evaluation of growth will not be made before completion of the first growing season after seeding. The authorized officer is to be notified 15 days prior to seeding so that arrangements can be made for inspection of the seeding project.

Seed Mixture:	Drilled	Broadcast (twice the drilled rate)

The plan should discuss the seeding methods to be used.

B. Mulching

All disturbed areas shall be mulched. Methods of mulching shall include one of the following: native hay, hay of introduced grass species, small grain straw, wood fiber, live mulch, cotton, jute, or synthetic netting, and hydromulch. The plan should address the mulching method to be used.

C. Restoration of Improvements

Methods for restoration of any disturbed improvements such as cattle-guards, gates, reservoirs, etc.

III. Maintenance

A. Explanation of recurring activities.

B. Access Requirements

A separate authorization will be required for an access road that cannot be constructed within the right-of-way.

1. Roads that may be needed.

2. Contact the authorized officer, BLM:

Name:
Address:
Phone:

IV. Abandonment

A. Abandonment procedures will be submitted to the authorized officer at least one year prior to expiration or termination of the grant.

Guidelines and Outline for Preparing Construction, Operation, and Maintenance Plans for Communication Sites

The applicant will prepare and submit with the right-of-way application a construction, operation, maintenance, and termination plan. The plan must be approved by the District or Area Manager before any activities begin on the ground. The level of detail required and items to be covered in the plan will be determined prior to filing the application and after a meeting between the applicant and the appropriate field personnel. The plan shall include at a minimum the following items:

I. Construction

A. Engineering details to include:

1. Plan and profile view of the site. Illustration should show existing ground profile and typical cross sections of the site (may be omitted if no earthwork is necessary).

2. Narrative description of techniques and equipment to be used for construction of the site.

3. Equipment and material staging areas. Location of these areas that are needed outside the right-of-way should be identified.

B. Construction Schedule

Anticipated starting and completion dates and schedule of work, if appropriate.

C. Access Requirements

If construction of an access road is necessary, a separate Design and Operations Plan for the road shall be submitted to the authorized officer. The plan must be approved before any construction begins.

D. Power Requirements

If electric power is necessary, a separate Design and Operations Plan for the powerline shall be submitted to the authorized officer. The plan must be approved before any construction begins.

1. Clearing and Grubbing. All areas where earthwork will be performed during construction shall be thoroughly cleared and stripped of all roots, stumps, woody plant materials over three feet high, and other objectionable material. The work shall be accomplished to avoid the removal and mixing of topsoil with the vegetative material. The plan shall address the proposed method for disposal of the cleared material.

2. Topsoil. Topsoil shall be stripped to a depth of _____ inches. Include quantity (cubic yards) of topsoil to be stockpiled. Calculations are based upon total disturbed area.

3. Improvements. Anticipated disturbance of fences, gates, cattleguards, reservoirs, and other improvements. Functional use of improvements must be maintained at all times.

II. Rehabilitation

All areas not needed for facilities shall be recontoured to blend with the natural terrain and improvements on the site. Topsoil shall be uniformly distributed over this area and disked or scarified to provide a suitable seedbed.

A. All disturbed areas are to be seeded with the seed mixture listed below. Ninety percent pure live seed shall be used. The seed shall be applied by a drill equipped with a depth regulator. Planting depth shall not exceed one-half inch. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. It is recommended that seeding be done during the

months of September or October following construction completion. The seeding will be repeated until a satisfactory stand, as determined by the authorized officer, is obtained. Evaluation of growth will not be made before completion of the first growing season. The authorized officer is to be notified 15 days prior to seeding so that arrangements can be made for inspection of the seeding project.

Seed Mixture:	Drilled	Broadcast (twice the drilled rate)

The plan should discuss the seeding methods to be used.

B. All disturbed areas should be mulched. Methods of mulching shall include one of the following: native hay, hay of introduced grass species, small grass straw, wood fiber, live mulch, cotton, jute, or synthetic netting, and hydromulch. The plan should discuss the mulching methods to be used.

C. Restoration of Improvements

Methods for restoration of any disturbed improvements such as fences, cattleguards, gates, etc.

III. Maintenance

Immediately upon completion of construction, the grantee will clearly post at the site the BLM serial number assigned to this grant. The number must be legible at all times. The plan will contain a proposed color scheme for all improvements on the site.

A. Explanation of Recurring Activities

IV. Abandonment

Abandonment procedures will be submitted to the authorized officer at least one year prior to expiration or termination of the grant.

APPENDIX 2
CONSTRUCTION SCHEDULES AND MANPOWER

WHITNEY CANYON FACILITY
AMOCO PRODUCTION COMPANY
OPERATING PERSONNEL ESTIMATE

CLASSIFICATION	1982	1983	1984	1985	1986
Supervisory	12	12	12	12	12
Operators	27	27	27	27	27
Maintenance	30	30	30	30	30
TOTAL	69	69	69	69	69

STEARNS-ROGERS

CRAFT MANPOWER ESTIMATE

CRAFT	1980 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1981 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1982 Jan	Feb	Mar
CARPENTER					4	4	8	8	12	12	12	12	8	4	2	1											
CEMENT FIN							1	2	2	3	3	4	4	4	2	1											
IRON WORKERS									6	12	18	18	18	12	6	2	2										
LAB				20	20	40	60	80	100	170	210	240	240	230	220	200	190	180	180	170	170	110	70	30	20	20	
MIL W												10	16	16	18	18	16	16	16	10	4	2	4	4	4	4	
OPERATORS					2	6	8	8	10	12	14	14	14	14	10	10	10	6	6	4	4	2	2	2	2	2	
PIPE FIT					12	20	30	40	50	120	150	175	175	175	175	150	150	150	150	150	150	100	50	20	20	20	
R BUST							6	10	14	14	14	14	14	10	6	2											
TOTAL				20	38	70	113	148	194	343	421	487	489	465	439	384	368	352	352	334	328	214	126	56	46	46	

STEARNS-ROGERS
CONSTRUCTION MANPOWER ESTIMATE

	1980											1981												1982	
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
SITE MANAGER			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
CONST SUPER			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ASST SUPER			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AREA SUPER					1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
RES ENGR			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ONST ENGR			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
FIELD ENGR			1	1	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	1	1	
OFFICE MGR.			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ASST PERS MGR			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
ACCOUNTANT			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	
ASST ACCT			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MAT'L SUPV			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PURCH AGT			1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1			
WAREHOUSE					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SAFETY			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
FIRST AID					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
CRAFT SUPER		2	2	4	4	4	4	5	5	5	6	6	6	6	6	6	5	5	4	4	3	3	3	3	3	3	
CAMP MGR		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Q-C ENGR				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
COST ENGR			1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1		
SCHEDULERS			1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1		
ESTIMATORS			1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1								
PIPING ENGR								1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ELECT ENGR								1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
STRUCT ENGR						1	1	1	1	1	1	1	1	1	1	1											
INSTR ENGR											1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
TOTAL	16		19	26	30	32	33	35	36	38	38	40	40	40	39	38	37	36	36	34	34	29	29	22	18		

AMOCO'S WHITNEY CANYON FACILITY

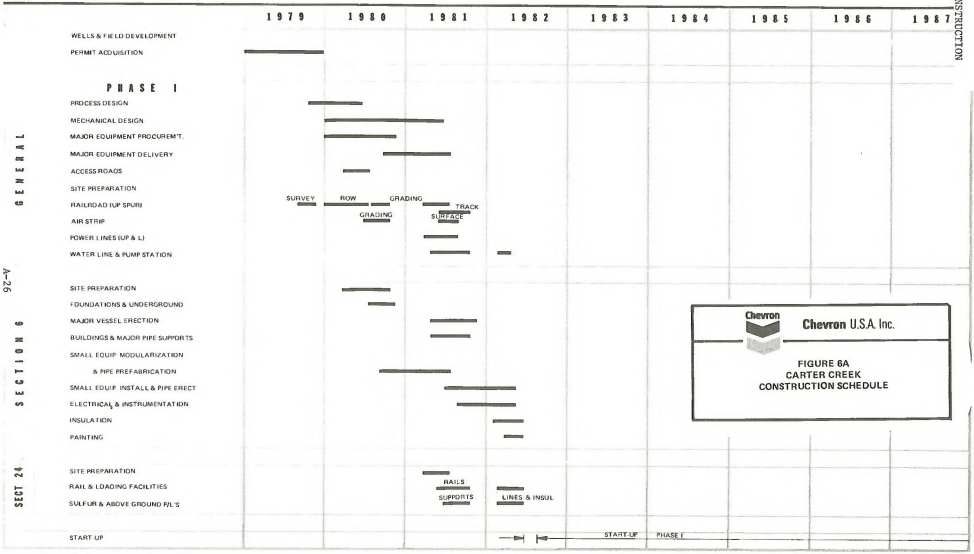
SUBCONTRACTOR MANPOWER ESTIMATE

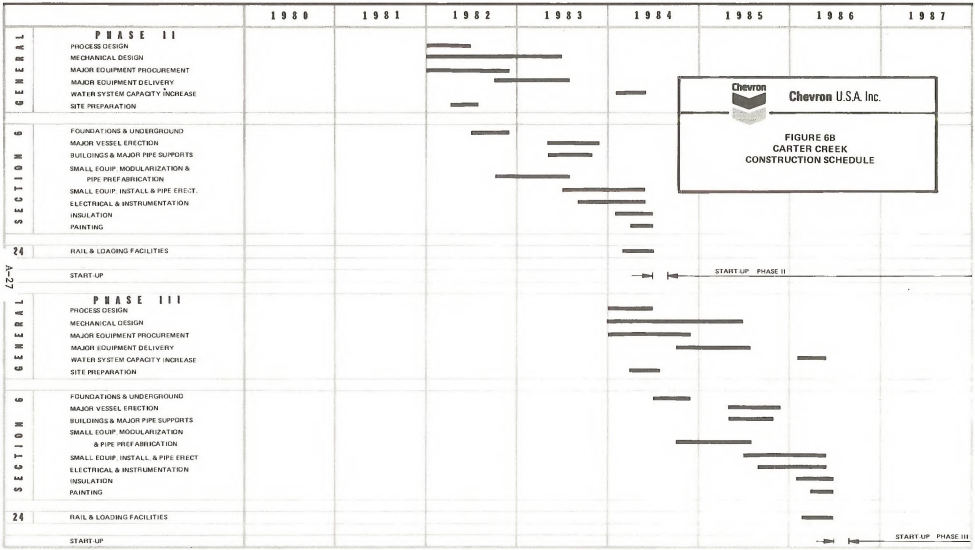
CLASSIFICATION	1980 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1981 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1982 Jan	Feb	Mar
IRON WORKERS									6	14	24	24	24	37	37	33	13										
ELECTRICIANS											4	4	4	8	8	12	24	36	48	48	48	36	30	25			
PAINTERS																		10	15	20	20	20	15	10			
INSULATORS																		30	35	45	55	55	35	32			

AMOCO'S WHITNEY CANYON FACILITY

AMOCO PERSONEL-CONSTRUCTION ESTIMATE

CLASS	1980 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1981 Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1982 Jan	Feb	Mar	Apr
FIELD ENGR				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
INSPECTOR			1	1	1	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
LEAD ANAL					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ASST ANAL										1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3


1979
1980
1981
1982
1983
1984
1985
1986
1987
WELLS & FIELD DEVELOPMENT
PERMIT ACQUISITION
PHASE I
PROCESS DESIGN
MECHANICAL DESIGN
MAJOR EQUIPMENT PROCUREM'T.
MAJOR EQUIPMENT DELIVERY
ACCESS ROADS
SITE PREPARATION
RAILROAD (UP SPUR)
AIR STRIP
POWER LINES (UP & L)
WATER LINE & PUMP STATION
SITE PREPARATION
FOUNDATIONS & UNDERGROUND
MAJOR VESSEL ERECTION
BUILDINGS & MAJOR PIPE SUPPORTS
SMALL EQUIP. MODULARIZATION
& PIPE PREFABRICATION
SMALL EQUIP. INSTALL & PIPE ERECT
ELECTRICAL & INSTRUMENTATION
INSULATION
PAINTING
SITE PREPARATION
RAIL & LOADING FACILITIES
SULFUR & ABOVE GROUND P/L'S
START UP
SURVEY
ROW
GRADING
TRACK
GRADING
SURFACE
RAILS
SUPPORTS
LINES & INSUL
START UP
PHASE I
Chevron
Chevron U.S.A. Inc.
FIGURE 6A
CARTER CREEK
CONSTRUCTION SCHEDULE


1980
1981
1982
1983
1984
1985
1986
1987
PHASE II
PROCESS DESIGN
MECHANICAL DESIGN
MAJOR EQUIPMENT PROCUREMENT
MAJOR EQUIPMENT DELIVERY
WATER SYSTEM CAPACITY INCREASE
SITE PREPARATION
FOUNDATIONS & UNDERGROUND
MAJOR VESSEL ERECTION
BUILDINGS & MAJOR PIPE SUPPORTS
SMALL EQUIP. MODULARIZATION & PIPE PREFABRICATION
SMALL EQUIP. INSTALL & PIPE ERECT.
ELECTRICAL & INSTRUMENTATION
INSULATION
PAINTING
RAIL & LOADING FACILITIES
START-UP
START-UP PHASE II
PHASE III
PROCESS DESIGN
MECHANICAL DESIGN
MAJOR EQUIPMENT PROCUREMENT
MAJOR EQUIPMENT DELIVERY
WATER SYSTEM CAPACITY INCREASE
SITE PREPARATION
FOUNDATIONS & UNDERGROUND
MAJOR VESSEL ERECTION
BUILDINGS & MAJOR PIPE SUPPORTS
SMALL EQUIP. MODULARIZATION & PIPE PREFABRICATION
SMALL EQUIP. INSTALL. & PIPE ERECT
ELECTRICAL & INSTRUMENTATION
INSULATION
PAINTING
RAIL & LOADING FACILITIES
START-UP
START-UP PHASE III
Chevron
Chevron U.S.A. Inc.
FIGURE 6B
CARTER CREEK
CONSTRUCTION SCHEDULE

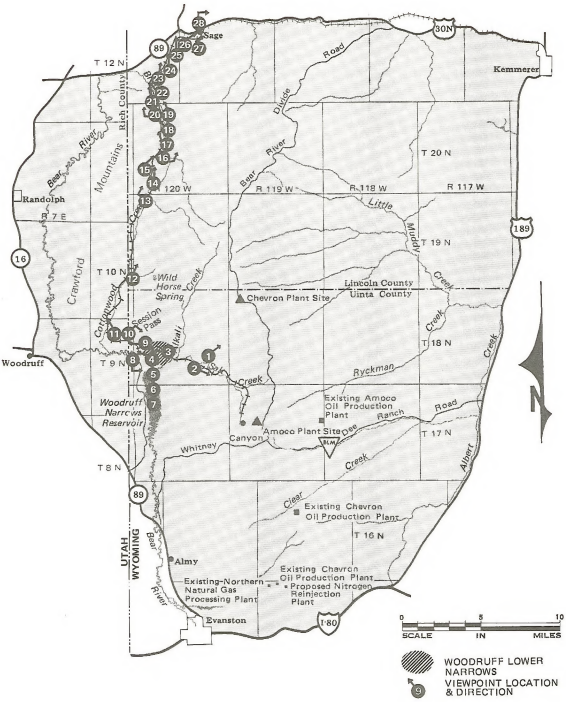
CHEVRON PROJECT
CARTER CREEK GAS PLANT
EVANSTON, WYOMING

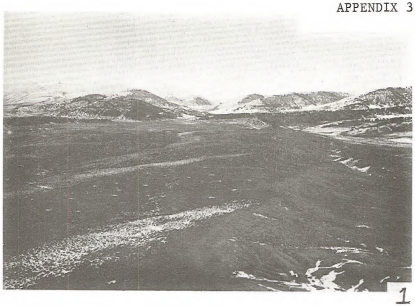
PRELIMINARY SUMMARY MANPOWER CHART

MANPOWER CHART	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
Craft				40	80	115	135	145	175	175	260	330	395	570	790	850	999	999	999	999	999	999	999	999	900	500	200
Subcontract		60	140	150	175	175	125	25			30	50	140	150	150	100								30	60	20	
Field Staff	29	37	38	45	57	59	67	80	85	86	91	105	108	112	113	113	113	113	113	112	111	109	106	99	81	68	49
TOTAL	29	97	178	235	312	349	327	250	260	261	381	485	643	832	1053	1063	1112	1112	1112	1111	1110	1108	1105	1098	1041	588	249

APPENDIX 3
VIEWS ALONG PROPOSED RAILROAD ROUTE

This appendix contains pictorial views along the proposed railroad route whose purpose is to portray the general terrain this route would be constructed in. Map A3-1 shows the location, approximate view angle of the photos included in the appendix.


Sage
Kemmerer
Randolph
Woodruff
Almy
Evanston
Lincoln County
Uinta County
Chevron Plant Site
Amoco Plant Site
Existing Amoco Oil Production Plant
Existing Chevron Oil Production Plant
Existing-Northern Natural Gas Processing Plant
Existing Chevron Oil Production Plant
Proposed Nitrogen Reinjection Plant
Woodruff Narrows Reservoir
Wild Horse Spring
Session Pass
Canyon
Ryckman Creek
Whitney Creek
Clear Creek
Little Muddy Creek
Alligator Creek
Dugway Road
Ranch Road
Bear River
Mountains
Crawford
Cottonwood Creek
Bear River
Bear River
Bear River



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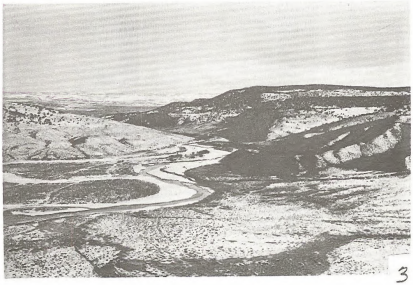

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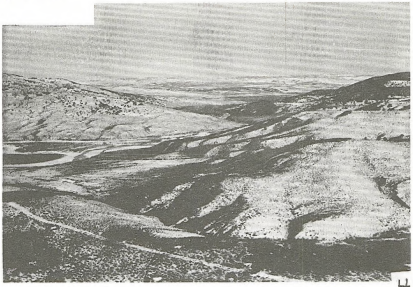

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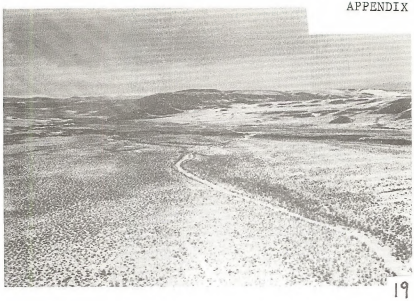

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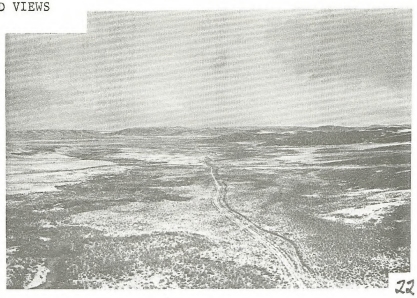

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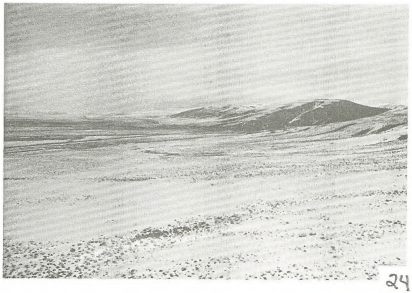

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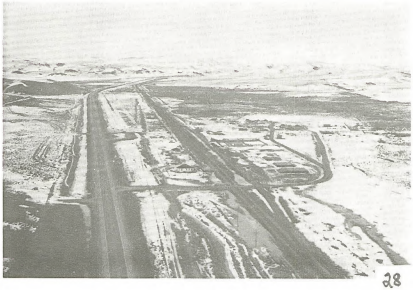

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APPENDIX 4
DEQ AIR QUALITY ANALYSES OF PLANT SITES

STATE OF WYOMING

Department of Environmental Quality/Division of Air Quality

PUBLIC NOTICE

Section 21(m) of the Wyoming Air Quality Standards and Regulations provides that prior to final determination on an application to construct a new source, opportunity be given for public comment and/or public hearing on the information submitted by the owner or operator and on the analysis underlying the proposed approval or disappproval. The regulation further requires that such information be made available in at least one location in the affected air quality control region, and that the public be allowed a period of 30 days in which to submit comments. A public hearing will be conducted only if in the opinion of the administrator sufficient interest is generated or if an aggrieved party so requests.

Notice is hereby given that the State of Wyoming, Department of Environmental Quality, Division of Air Quality, proposes to approve a request by the following applicant to construct a new source in Uinta County, Wyoming.

CHEVRON U.S.A. INC.
P.O. Box 599
Denver, Colorado 80201

The applicant has requested permission to construct a natural gas processing plant with associated sulfur recovery facilities in Section 6, T.18N., R.119W., Uinta County, Wyoming. The agency's analysis of the aforesaid application is available for public inspection at the Uinta County Clerk's Office, Evanston, Wyoming.

This facility is subject to the provisions of Section 24, Prevention of Significant Deterioration, of the 1979 Wyoming Air Quality Standards and Regulations. Predicted increment consumption and Class II allowables for sulfur dioxide (SO_2) are as follows:

SO_2 CONCENTRATION (ug/m^3)

	3-hr	24-hr	Annual
Predicted	30	12	3
Allowable	512	91	20

Public comments are invited anytime prior to February 17, 1980.

Commenta may be directed to Randoiph Wood, Administrator, Division of Air Quality, Department of Environmental Quality, Hathaway Building, Cheyenne, Wyoming 82002. All comments received prior to February 17, 1980 will be considered in arriving at a final determination on this application.

INCREMENT ANALYSIS AND AMBIENT AIR QUALITY IMPACT:

A. Stack Parameters and Emissions Modeled - Table III contains a listing of stack parameters and emissions modeled by Chevron.

In accordance with Section 21 d., of the Wyoming Air Quality Standards and Regulations, the only stack subject to "good engineering practice stack height" is the tail gas plant stack. The applicant has proposed to construct a 200 ft., stack and that the stack be accepted as "good engineering practice stack height".

Chevron has demonstrated to the satisfaction of the Division that a 200 ft., stack should be considered as "good engineering practice stack height" on the basis of reported modeling showing compliance with OSHA threshold limits for an 8-hour exposure. The 200 ft stack height is required to provide safe working conditions for plant personnel during periods of high wind conditions associated with abnormal plant operations.

B. Review of Applicant's Modeling Results:

The ambient impact of the proposed facility was predicted through the use of three models and techniques described in Turners, "Workbook of Atmoshperic Dispersion" (EPA, 1970).

Sulfur Dioxide (SO_2) - The annual SO_2 impact was predicted by the CDM model with meteorological input consisting of the Star Program for Rock Springs for 1967-1971 as obtained from the National Climatic Center. The write-up does not indicate any modifications to the model to reflect rural conditions. The reported maximum impact for the annual SO_2 was 2.0 ug/m^3 at 0.6 mile (.97km) to the east of the plant.

The 24 hr SO_2 impact was predicted by the PTDIS Model and PTMTP Model which provides 1 hr concentrations. 6-hrs of identical conditions were assumed to exist during a 24 hr period.

The meteorological data input to the PTSIS and PTMTP Models were:

A) For the normal coning process, all six Pasquill Stability Classes for wind speeds of 1-6 m/sec and for distances out to 50Km.

B) For the limiting mixing process, inversion lids (in 100-meter intervals) up to 1000 meters for stability classes 3 and 4.

The PTDIS and PTMTP Models predicted a maximum 1-hr SO_2 concentration of 36.3 ug/m^3, with normal coning, stability Class C, 5 m/sec wind speed and 0.5 km downwind.

Table III. Stack Parameters and Emissions Modeled

Emission Source	Number of Sources	Stack Height (m)	Stack Diameter (m)	Exit Vel. (m/sec)	Actual Gas Flow Rate (m^3/sec)	Gas Temp. (°K)	Pollutant Emission Rates (g/sec) per source					
							SO_x	NO_x	CO	TSP(1)	HC	H_2S
Gas Turbine Compressor	6	15.2	2.64 x 1.70	12.7	57.1	644	.230	2.5	1.0	-	.019	-
Tail Gas Plant	3	61.0	2.13	16.2	56.7	452	.081	-	20.0	-	-	1.0
Glycol Still Reboiler Heater	3	9.1	0.61	5.3	3.1	783	.034	.170	.021	.006	.004	.17
Process Heater	3	27.4	1.22	11.9	13.9	561	.210	.780	.140	.040	.023	-
Mol Sieve Regeneration Heater	3	9.1	0.86	5.3	3.1	783	.034	.170	.021	.006	.004	.17
Emergency Flares												
High Pressure	3	91.4	1.22	-	1.0	977	.010	.080	.006	.005	.001	-
Low Pressure	3	91.4	0.61	-	0.5	977	.005	.040	.003	.002	.001	-
Steam Boilers	6	27.4	1.52	10.2	18.7	511	.320	2.40	.2	.059	.035	-
Sulfur Tanks	3	12.2	0.45	1.52	0.24	367	-	-	-	.054	-	.05

(1) Not modeled because under 100 TPY.

Assuming 6-hr of identical conditions during a 24-hr period, the maximum 24-hr SO_2 concentration was 9.1 ug/m^3. Assuming the 1-hr SO_2 concentration can persist for a 3-hr period, the maximum 3-hr SO_2 concentration would be 36.3 ug/m^3.

Nitrogen Dioxide (NO2) - The annual NO_2 impact was predicted by the use of the CDM Model. The reported maximum annual impact for the NO_2 was 20.2 ug/m^3 at 0.6 mile (.97km) east of the plant.

Particulates - No modeling required. Ambient impact for 24 T/yr would be negligible.

Carbon Monoxide (CO)- The 1-hr and 8-hr CO impact was predicted by the PTDIS and PTMTP Models. The reported maximum 1-hr CO concentrations was 90.5 ug/m^3. Assuming 4-hours of worst case condition out of eight hours, the maximum 8-hr CO concentration was 45.3 ug/m^3.

Non-Methane, Non-Ethane Hydrocarbons (NMNEHC) - A 3-hr NMNEHC concentration was calculated from techniques described in Turner's "Workbook of Atmospheric Dispersion Estimates" (EPA, 1970) for area sources. The reported 3-hr NMNEHC concentration was 120 g/m^3. Wyoming's ambient standard for hydrocarbons is measured and adjusted for methane only and is not adjusted for ethane. However, the ethane portion of HC emissions at this facility is not expected to be significant.

Hydrogen Sulfide (H_2S) - The 1/2 hr H_2S impact was predicted using the PTDIS and PTMTP Models. The reported maximum concentration 17.9 ug/m^3 occurred with normal coning, stability class 1 4 m/sec wind speed and at 0.5 km downwind.

C. Division Modeling Analysis

1. Annual Impact SO_2

   Since there was no indication that the CDM model used by the applicant had been modified to reflect rural conditions, the Division used a modified CDM model to predict the annual impact of the plant. Flat terrain was assumed and the 1950-1954 Ft. Bridger star data for meteorological input was used. The maximum annual SO_2 concentration was 2 ug/m^3 at a location 1 km east of the proposed facility.

2. Short-Term Impact - SO_2

   The Division utilized an in-house short-term model programmed on a Hewlett Packard Calculation to predict short-term SO_2 impacts.

   The calculator produced the following 10 min or 1-hr concentrations for the 6 stability classes. The calculated concentrations were assumed to be 1-hr concentrations and conversion to 3-hr and 24-hr estimates were made by the following calculation:

$$C_T = C_{1\ hr}\left(\frac{1\ hr}{T}\right)^{.44}$$

   Modeling results are contained in Table IV, Maximum SO_2 ground level concentrations. All modeling assumed unlimited mixing.

Table IV. Maximum SO_2 Ground Level Concentrations

Stability	Wind Speed (m/sec)	1-hr. Max. GLC (ug/m^3)	Downwind Dist. (km)	3-hr. Max. GLC	24-hr. Max. GLC
A	4	35	0.3	21	*
B	4	33	0.5	20	8
C	6	32	0.6	20	8
D	8	23	1.1	14	6
E	2	15	4.9	9	4
F	2	12	9.3	7	3

* Use of the $(1/24)^{.44}$ power law calculation to convert 1-hr concentration to 24-hr concentration basically makes the same assumptions as the Valley Model. The model assumes that stability, wind speed and wind direction will persist for 6 hours. Since on an annual basis A stability only exists for 1% of the time and wind speeds and directions associated with the extremely unstable condition vary significantly, the Division concludes that extrapolation of a 1-hr concentration to a 24-hr concentration is not justified.

The Division also used the CDM Model with two optional joint frequency decks to predict the maximum 24-hr impact to the proposed facility. The Division ran the CDM Model for a limited mixing case and for two stability conditions; slightly unstable and neutral assuming all the wind was blowing from the south.

The results are as follows:

STABILITY	WIND SPEED (m/sec)	DOWNWIND Dist.(km)	MIXING Height (m)	24-hr SO2 - GLC
C	4.47	1	300	3 ug/m^3
D	9.61	1	2000	2 ug/m^3

The Division has looked at the terrain features around the proposed plant site and found that the significant terrain features have been addressed by the applicant. The plant elevation (8100 ft.) is above or at the same elevation as surrounding topography.

3. Annual Impact - NO_x

   The annual NO_x model was run using the stack parameters of all NO_x sources except the emergency flares. The highest modeled concentration was approximately 17 ug/m^3 at a distance of 1 km east of the plant. Compliance with the 100 ug/m^3 annual NO_x standard is demonstrated.

4. Annual Impact - COS

   COS is not a regulated pollutant and as such is not subject to emission regulations or ambient standards.

   Based on the data gathered by Maroulis, Torres, and Brandy, [1] it has been suggested that the lifetime of COS is much longer than other atmospheric sulfur gases such as H_2S and SO_2. Peyton and Steele [2] have predicted the half life of COS to be approximately 0.3-0.5 years.

   It is the determination of the Division that COS is a relatively long-lived pollutant. However, due to the very large quantities of COS emitted from the plant (6000 TPY), it was the Division's determination that ambient modeling be done. The highest modeled annual COS concentration was 10 ug/m^3 approximately 3 km East-Northeast (E NE) of the plant. See Figure 1 for map of annual concentrations.

   1) P.J. Maroulis, A.L. Torres, and Alan R. Brandy, Atmospheric Concentrations of Carbonyl Sulfide in the Southwestern and Eastern United States, Geophysical Research Letters, Vol. 4, Nov. 11, 1977.

2) Thomas O. Peyton, Robert V. Steele, Carbon Disulfide, Carbonyl Sulfide: Literature Review and Environmental Assessments EPA-600/9-78-009.

5. Short-Term Impact - COS

The Division utilized an in-house short-term model programmed on a Hewlett Packard calculator to predict short-term COS impact. Modeling assumptions are the same as those used for short-term SO_2 impact. The modeling results are as follows:

STABILITY	WIND SPEED (m/s)	1-hr Max.GLC(ug/m^3)	DOWNWIND Dist. (m)	24-hr Max. GLC(ug/m^3)
A	4	429	0.5	*
B	4	271	1.1	68
C	7	240	1.4	60
D	9	137	3.2	34
E	2	176	11.0	44
F	2	85	28.0	21

* Extrapolation of 1-hr concentration to 24-hr concentration is not justified.

D. Interaction with Existing and Proposed Facilities

The Division has issued a PSD permit to Amoco for a natural gas processing plant with sulfur recovery facilities to be located approximately 13 km south-southeast of Chevron's proposed facility.

Applicant's modeling of interactive effects of the two facilities was based on Amoco utilizing a 2-stage Claus + CBA process to remove H_2S with SO_2 emissions estimated for a 1000 TPD facility. The reported maximum combined 24-hr SO_2 concentration for the two facilities was 56 ug/m^3 assuming the wind blowing from Chevron to Amoco (south).

The Division modeled the interactive effects of the two proposed facilities with SO_2 emissions from the Amoco facility based upon a 1335 TPD facility.

1. Annual SO_2 Increment Analysis

The Division used a modified CDM model to predict the annual SO_2 interactive impact of the two facilities. Flat terrain was assumed and the 1950-1954 Ft. Bridger Star data was used. The maximum annual concentration was 14 ug/m^3 approximately 4 km east-northeast of Amoco with no significant contribution from Chevron. The maximum annual interactive concentration in the near vicinity of Chevron was 3 ug/m^3 at 1 km east of the proposed facility. See figure 2 for a map of annual concentrations.

2. Short-Term SO_2 Increment Analysis

The Division used the CDM model with two optional joint frequency decks assuming the wind was blowing from the south, which would give the maximum interactive effect of the two facilities.

The Division ran the model for a limited mixing case and two stabilities; slightly unstable and neutral. The results are as follows:

STABILITY	WIND SPEED (m/sec)	DOWNWIND DIST. from Amoco, Chevron(km)	MIXING Height(m)	24 hr SO_2 Max.CLC(ug/m^3)
C	4.47	3,1	300	33,12
D	9.61	3,1	2000	17,7

Using the $(24/3)^{.44}$ power law calculation, the maximum 3 hr SO_2 concentration for C Stability is 82 and 30 ug/m^3 respectively.

E. Impact on Class I Areas

The Division has reviewed the modeling data with respect to impact on Class I areas. The nearest Class I area is the Bridger Wilderness Area located about 120 miles to the northeast. The effects of the facility will be undetectable at this distance and hence the facility will not impact any Class I areas.

F. Summary: Model Results

The applicable SO_2 increments for a Class II area are as follows:

Annual -20 ug/m^3
24-hr - 91 ug/m^3
3-hr - 512 ug/m^3

The following table lists the maximum calculated SO_2 concentrations for each standard by the applicant and the Division.

	APPLICANT		DIVISION	
	CHEVRON	CHEVRON & AMOCO	CHEVRON	CHEVRON & AMOCO
ANNUAL:	2	-	2	**14, *3
24hr:	9.1	56	8	**33, *12
3 hr:	36.3	-	20	**82, *30

*Highest values in which both facilities contributed.
**Highest modeled values in area of impact of both facilities (No contribution from Chevron was predicted at these receptors).

Compliance with all applicable increments has been demonstrated.

The Division did not model for CO, NMNEHC nor H_2S emission. Based upon the low values reported by the applicant, the Division is satisfied that the proposed facility operating as specified in the permit application will meet all applicable air quality standards and regulations.

G. Conclusion:

Based upon the analysis, the Division concludes the following:

1. Use of the 3-stage Claus + BSRP TCT units, as documented in the Chevron application, represents "best available control technology".

2. The BSRP TGT units will enable the Chevron plant to operate within the allowable Class II area without violating applicable SO_2 increments.

3. The operation of the plant will comply with all applicable air quality standards and regulations.

Therefore, the Division proposes to approve Chevron's request to construct a gas sweetening plant and sulfur recovery unit using the BSRP TGT unit with the following conditions:

1. That each tail gas unit be limited to 160 lbs/hr of CO; and 460 lbs/hr COS and 8.2 lbs/hr H_2S based on an overall sulfur recovery efficiency of at least 99.7%.

2. That a continuous in-stack monitoring system for measuring H_2S and reduced sulfur compounds emissions be installed, calibrated, maintained and operated. The monitoring system shall comply with the requirements of Section 22j of the Wyoming Air Quality Standards and Regulations. Record keeping and excess emissions reporting shall comply with the requirements of Section 22g of these Standards and Regulations. Periods of excess emissions shall be defined as any six-hour period in which the average emissions of H_2S and reduced sulfur compounds exceed the emissions defined by 99.7% control efficiency (expressed as percent by volume at zero percent oxygen on a dry basis).

3. That Chevron establish and operate an ambient monitoring network to continuously monitor sulfur dioxide (SO_2), hydrogen sulfide(H_2S) and COS ground level concentrations. The network shall initially consist of one(1) meteorological station to measure and record wind speed and direction, and one(1) ambient station to continuously monitor SO_2, H_2S, and COS. The Division will require the meteorological station to be operational on start of construction. Wind data collected will be reviewed by the Division for placement of the ambient monitor prior to plant start-up. The data generated by the ambient monitoring network will be submitted to the Division in an approved format and on a quarterly basis within 60 days of the end of each calendar quarter. The Division reserves the right to request expansion and/or relocation of the monitoring network at such time as data or future development of the area dictates.

FIGURE I

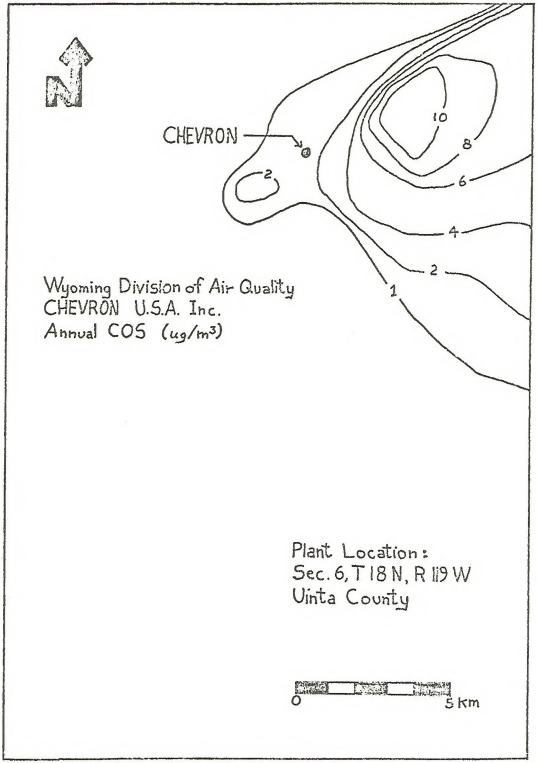
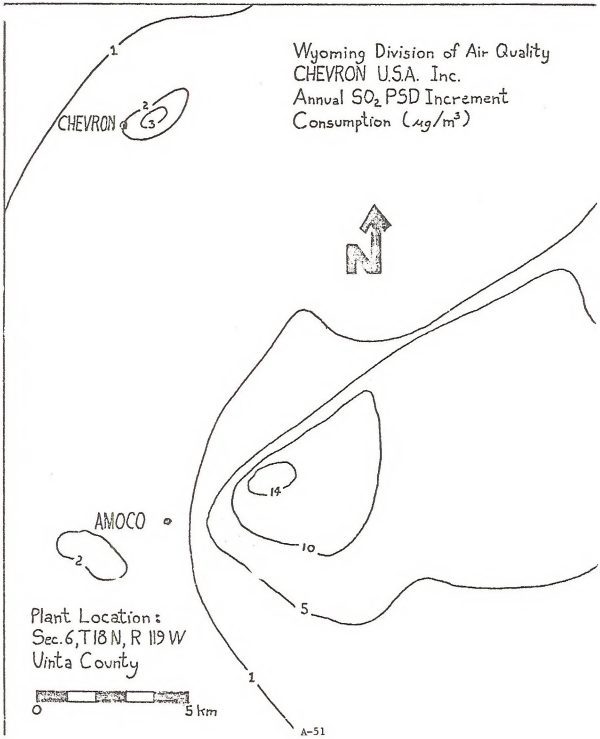
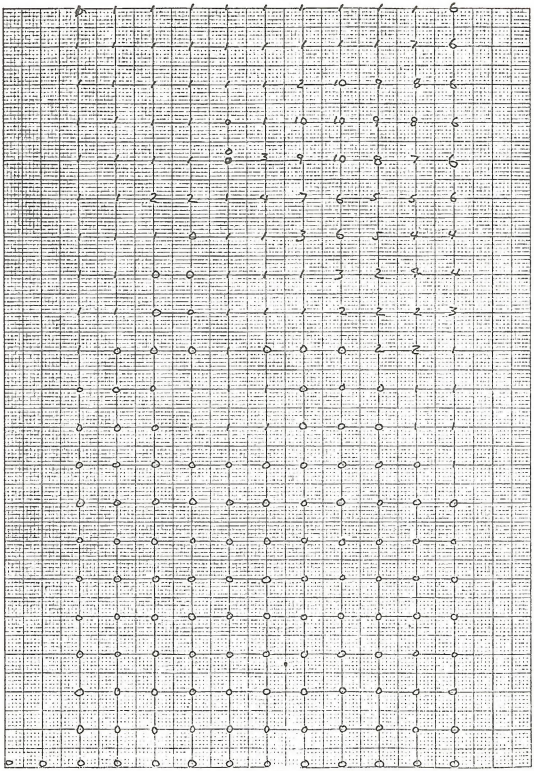
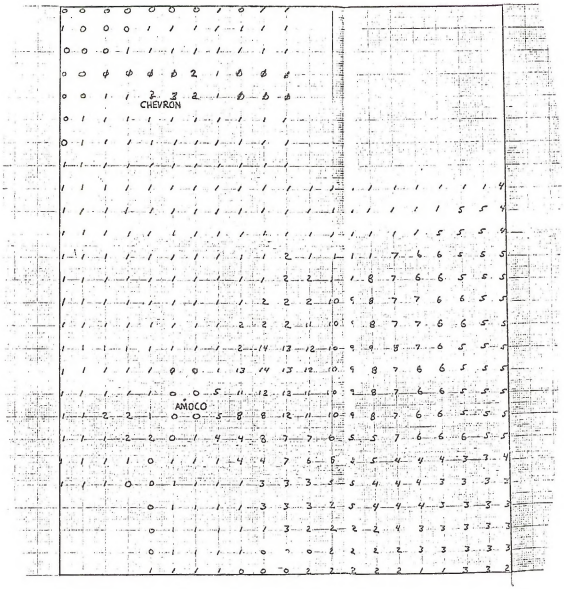

N
CHEVRON
10
8
6
4
2
1
2
Wyoming Division of Air Quality
CHEVRON U.S.A. Inc.
Annual COS (ug/m3)
Plant Location:
Sec. 6, T 18 N, R 119 W
Uinta County
0
5 km

FIGURE 2


Wyoming Division of Air Quality
CHEVRON U.S.A. Inc.
Annual SO_2 PSD Increment
Consumption ($\mu g/m^3$)
CHEVRON
1
2
3
N
14
10
5
1
AMOCO
2
Plant Location:
Sec. 6, T 18 N, R 119 W
Uinta County
0
5 km

Chevron- Annual COS (ug/m³)




CHEVRON
AMOCO

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality

AIR QUALITY DIVISION

HATHAWAY BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 777-7391

RECEIVED
BLM ROCK SPRINGS
DISTRICT
APR 05 '80

DM ____ OPER ____
ADM ____ SP ____
PIO ____ SO ____
ADMIN ____ BS ____
OES ____ SW ____
R&E ____ PINE ____
LL PERS ____ KEM ____

December 20, 1979

Mr. John E. Lang
Coordinator of Environmental Affairs
Amoco Production Company
Security Life Building
Denver, Colorado 80202

Permit No. CT-272

Dear Mr. Lang:

The Division of Air Quality of the Wyoming Department of Environmental Quality has completed final review of Amoco Production Company's application to construct a natural gas processing plant with associated sulfur recovery facilities in Section 17, T.17N., R.119W., Uinta County, Wyoming. Following this agency's tentative approval of the request as published November 15, 1979, and in accordance with Section 21(m) of the Wyoming Air Quality Standards and Regulations, the public was afforded a 30-day period in which to submit comments concerning the proposed new source, and an opportunity for a public hearing. No comments have been received. Therefore, on the basis of the information provided to us, approval to construct a natural gas processing plant with sulfur recovery facilities as described in the application and amended to reflect a "Good Engineering Stack Height" of 175 feet for the sulfur plant incinerator stack is hereby granted pursuant to Sections 21 and 24 of the regulations with the following conditions:

1. That authorized representatives of the Division of Air Quality be given permission to enter and inspect any property, premise or place on or at which an air pollution source is located or is being constructed or installed for purpose of investigating actual or potential sources of air pollution, and for determining compliance or non-compliance with any rules, regulations, standards, permits or orders.

2. That the tail gas incinerator be limited to a SO_2 emission rate of 3115 lbs/hr based on an overall sulfur recovery efficiency of at least 98.6%.

3. That a continuous in-stack monitoring system for measuring sulfur dioxide emissions be installed, calibrated, maintained and operated. The monitoring system shall comply with the requirements of Section 22j of the Wyoming Air Quality Standards and Regulations. Record keeping and excess emissions reporting shall comply with Section 22g of these Standards and Regulations. Periods of excess emissions shall be defined as any six-hour period in which the average emissions

Mr. John E. Lang
Page 2
December 20, 1979

of sulfur dioxide exceed the emissions defined by 98.6% control efficiency (expressed as percent by volume at zero percent oxygen on a dry basis).

4. That Amoco establish and operate an ambient monitoring network to continuously monitor sulfur dioxide (SO_2) ground level concentrations. The network shall initially consist of one(1) meteorological station to measure and record wind speed and direction, and one(1) continuous SO_2 monitor. The Division will require the meteorological station to be operational on start of construction. Wind data collected will be reviewed by the Division for placement of the SO_2 monitor prior to plant start-up. The Division reserves the right to request expansion and/or relocation of the monitoring network at such time as data or future development of the area dictates.

5. That Amoco submit design specifications for the tail gas incinerator to the Division upon final selection of equipment.

It must be noted that this approval does not relieve you of your obligation to comply with all applicable local, county, state and federal standards, regulations or ordinances. Special attention must be given to Section 21 of the Wyoming Air Quality Standards and Regulations. Section 21(a) requires that a permit to operate is required in order to operate a facility after a 120-day start-up period, Section 21(i) requires notification of initial start-up, and Section 21(j) requires that performance tests be conducted within 90 days of initial start-up.

If we may be of further assistance to you, please feel free to contact this office.

Sincerely,

Randolph Wood
Administrator
Air Quality Division

Robert E. Sundin
Director
Dept. of Environmental Quality

REGISTERED PROFESSIONAL ENGINEER
ROBERT E. SUNDIN
NO. 285
STATE OF WYOMING

RW:RES/ct

STATE OF WYOMING

Department of Environmental Quality/Division of Air Quality

PUBLIC NOTICE

Section 21(m) of the Wyoming Air Quality Standards and Regulations provides that prior to final determination on an application to construct a new source, opportunity be given for public comment and/or public hearing on the information submitted by the owner or operator and on the analysis underlying the proposed approval or disapproval. The regulation further requires that such information be made available in at least one location in the effected air quality control region, and that the public be allowed a period of 30 days in which to submit comments. A public hearing will be conducted only if in the opinion of the administrator sufficient interest is generated or if an aggrieved party so requests.

Notice is hereby given that the State of Wyoming, Department of Environmental Quality, Division of Air Quality, proposes to approve a request by the following applicant to construct a new source in Uinta County, Wyoming.

AMOCO PRODUCTION COMPANY
Security Life Building
Denver, Colorado 80202

The applicant has requestd permission to construct a natural gas processing plant with associated sulfur recovery facilities in Section 17, T.17N., R.119W., Uinta County, Wyoming. The agency's analysis of the aforesaid application is available for public inspection at the Uinta County Clerk's Office, Evanston Wyoming.

This facility is subject to the provisions of Section 24, Prevention of Significant Deterioration, of the 1979 Wyoming Air Quality Standards and Regulations. Predicted increment consumption and Class II allowables for sulfur dioxide (SO_2) are as follows:

	SO_2 Concentration (ug/m^3)		
	3 hr	24 hr	Annual
PREDICTED:	216	87	14
ALLOWABLE:	512	91	20

RECEIVED
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Public comments are invited anytime prior to December 15, 1979. Comments may be directed to Randolph Wood, Administrator, Division of Air Quality, Department of Environmental Quality, Hathaway Building, Cheyenne, Wyoming 82002. All comments received prior to December 12, 1979 will be considered in arriving at a final determination on this application.

Increment Analysis and Ambient Air Quality Impact:

A) Stack Parameters and Emissions Modeled

Stack Height	- 175 ft*	- 53.3m
Stack Dia.	- 17 ft	- 5.2m
Velocity	- 17.6 ft/sec	- 5.4m/sec
Stack Temp.	- 900°	755°K
SO_2-CBA	- 3117 lb/hr	- 392.7g/sec
SO_2-Scot	- 672 lb/hr	- 84.7g/sec
Plant eleva.	- 8000 ft	

* The applicant originally proposed to construct a 250 ft incinerator stack and took credit for 125 ft of the stack for modeling purposes as required by "good engineering practice stack height" defined in Section 21 d., of the Wyoming Air Quality Standards and Regulations. Subsequent to the original submission Amoco has submitted a request that construction of a 175 ft stack be analyzed for the permit review process and that the 175 ft stack should be used as a "good engineering stack height".

Amoco has demonstrated to the satisfication of the Division that the higher stack height of 175 ft should be considered "good engineering practice stack height" on the basis of safe working conditions for plant personnel during periods of high wind conditions associated with abnormal plant operations.

B) Review of Applicants Model Results:

Three models were used to predict the ambient impact of the plant. All models used the 125 ft "GEP" stack height and emissions modeled were those calculated for the CBA tail gas unit.

The annual SO_2 impact was predicted by use of the CDM model. The meteorological input was the 1948-1954 Ft. Bridger Star program. The write-up does not indicate any modifications to the model to reflect rural conditions. The reported maximum impact for the annual SO_2 was 15 ug/m^3 at 3.5 km ENE of the plant.

The 24 hour SO_2 impact was predicted by the CRSTER model and the VALLEY model. The meteorological data input to the CRSTER model was from Rock Springs NWS for the year 1964. The upper air data was from Lander also 1964.

The CRSTER model predicted a maximum 24 hour SO_2 concentration of 87 ug/m^3 3 km SW of the plant site. The CRSTER model also predicted a maximum 3 hr SO_2 concentration of 216 ug/m^3, 2 km northeast of the plant site.

The VALLEY model was used to predict the impact of the plant on a short term basis at an elevated site at Medicine Butte, 8608 ft, approximately 8 miles south of the plant site. The met conditions used were a north wind of 2.5 m/sec and E stability. The reported maximum impact was 75 ug/m^3. The conditions used in the VALLEY model were checked against 10 years of surface data from Rock Springs and it was found that there was not a day with more than 2 consecutive hours of the 2.5 m/sec wind from the north in E stability. Valley assumes a 6 hr persistance.

C) Division Modeling Analysis

1) Annual Impact - SO_2

Since there was no indication that the CDM model used by the applicant had been modified to reflect rural conditions the Division used a modified CDM model to predict the annual impact of the plant. Flat terrain was assumed and the 1950-1954 FT. Bridger Star data was used. The following maximums were output:

CBA - 175 ft stack - 14 ug/m^3 4 km ENE
Scot - 175 ft stack - 3 ug/m^3 4 km ENE

Figure 1 describes annual SO_2 concentrations predicted by the CDM model.

2) Short Term Impact - SO_2

The Division utilized an in-house short term model programmed on a Hewlett Packard calculator along with the Valley model to predict short term SO_2 impacts.

The calculator model produced the following 10 minute or 1 hour ground level SO_2 concentrations for the 6 stability classes. The calculated concentrations were assumed to be 1 hour concentrations and conversion to the 3 hour and 24 hour estimates were made by the following calculation: $C_T = C_{1hr}\left(\frac{1\ hr}{T}\right)^{.44}$

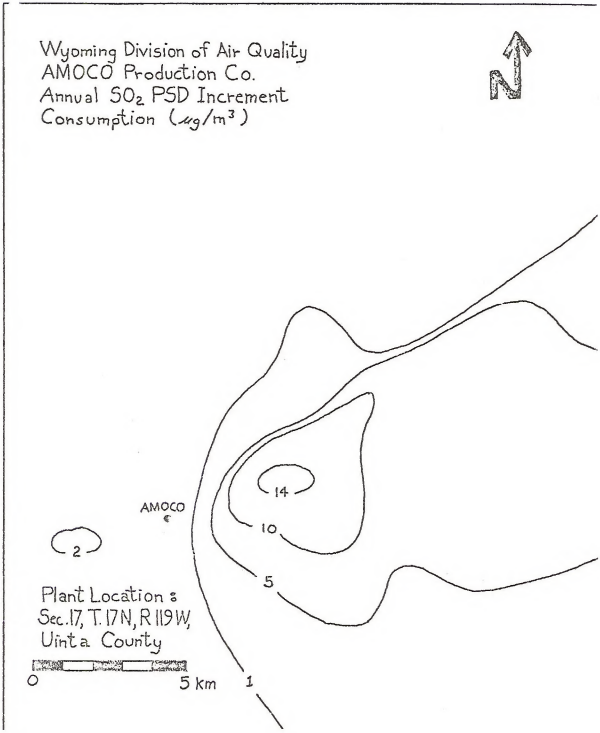
Amoco Short Term SO_2 - 175 ft stack - point maximum, CBA tail gas unit; all modeling with unlimited mixing.

STABILITY	WIND SPEED m/sec	1 hr Max GLC (ug/m^3)	DOWNWIND Dist.(km)	3 hr Max GLC	24 hr Max GLC
A	4	575	.6	354	*
B	5	302	1.4	186	75
C	14	318	1.3	196	79
D	15	186	3.2	115	46
E	1	212	26.0	131	52
F	2	86	36.0	53	21

* Use of the $(1/24)^{.44}$ power low calculation to convert 1 hour concentrations to 24 hour concentrations basically makes the same assumption as the VALLEY model. That is the stability, wind speed and wind direction will persist for 6 hours. Since on an annual basis A stability only exists for 1% of the time and wind speeds and directions associated with extremely unstable conditions vary quite significantly the Division concludes that extrapolation of a 1 hour concentration to a 24 hour concentration is not justified.

The Division also used the VALLEY model to predict 24 hour impact of the CBA unit. The Division ran the VALLEY model for a limited mixing case and for 2 unstable conditions. The results are as follows:

FIGURE I


Wyoming Division of Air Quality
AMOCO Production Co.
Annual SO_2 PSD Increment
Consumption ($\mu g/m^3$)
N
14
10
5
1
2
AMOCO
Plant Location:
Sec. 17, T. 17 N, R 119 W,
Uinta County
0
5 km

STABILITY	WIND SPEED (m/sec)	DOWN WIND DIST. km	MIXING HEIGHT (m)	24 hr SO_2 GLC
B	4.47	≈ 2 km	3000m	47 ug/m^3
C	12.52	≈1.5 km	3000m	43 ug/m^3
C	4.47	≈1.5 km	300m	42 ug/m^3

The Division has looked at the terrain features around the proposed plant site and found that the significant terrain feature has been addressed by the applicant. Essentially the plant located at an elevation of 8000 ft is above or at the same elevation of surrounding topography.

3) Annual NO_x

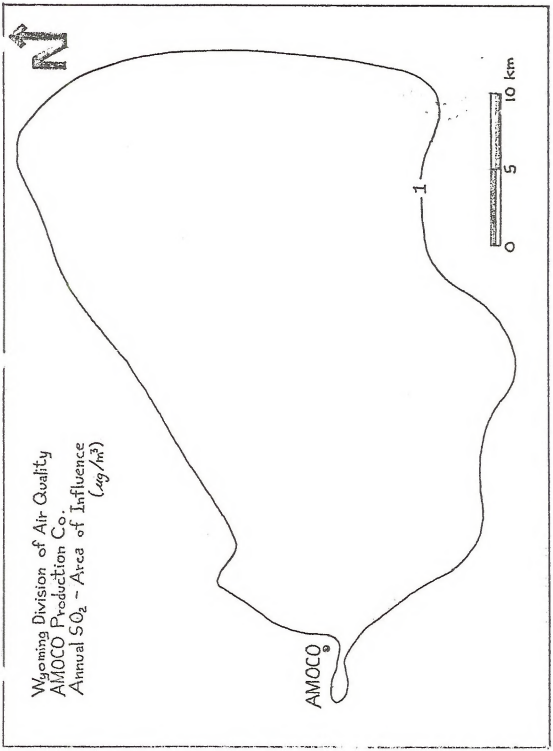
The only other pollutant which emission estimates show to exceed 100 TPY is nitrogen oxides (NO_x). An annual NO_x model was run assuming total NO_x emissions are emitted from a single stack. Stack parameters used in the model were the parameters for a process boiler. The highest modeled concentration was 5 ug/m^3 approximately .5 km ENE of the plant. Compliance with the 100 ug/m^3 annual NOx standard is demonstrated.

4) Impact on Class I Areas

The Division and the applicant extended modeling for SO_2 to 50 km downwind of the source. EPA at 40 CFR Part 52 June 19, 1979, states that they intend to limit generally the application of air quality models to a downwind distance of no more than 50 kilometers due to the uncertainty as to the accuracy of model estimates beyond this limit.

In reviewing the applicant's and the Division's modeling data within a 50 km radius of the source, the Division concludes that since modeled values are at or near minimum levels of significance, the proposed facility will impact the nearest Class I area which is approximately 200 km to the northeast. The annual SO_2 area of influence is shown on figure 2.

FIGURE 2


Wyoming Division of Air Quality
AMOCO Production Co.
Annual SO_2 - Area of Influence
($\mu g/m^3$)
N
AMOCO
1
0
5
10 Km

SUMMARY: Model Results

The applicable SO_2 increments for a Class II area are as follows:

Annual	- 20 ug/m^3
24 hr	- 91 ug/m^3
3 hr	- 512 ug/m^3

The following table lists the maximum calculated SO_2 concentrations for each standard by the applicant and by the Division. The applicants modeling is based on a 125 ft stack representing "good engineering practice stack height" and the Divisions is based on a 175 ft stack representing GEP stack height.

	Applicant	Division
Annual	15 ug/m^3	14 ug/m^3
24 hr	87 ug/m^3	79 ug/m^3
3 hr	216 ug/m^3	354 ug/m^3

The applicant has used the more sophisticated model for maximum 24 hour and 3 hour SO_2 concentrations. The Division's short term modeling was done using less sophisticated screening models. Compliance with all applicable increments have been demonstrated.

The Division would expect the high 24 hour concentration as well as the high 3 hour concentration predicted by the applicant to be reduced if the 175 ft stack height was used in the modeling.

The background SO_2 concentrations in the area as tabulated by the applicant are small. The Division is satisfied that the plant operating with either the CBA or Scot tail gas unit will meet all applicable air quality standards and regulations.

CONCLUSION:

Based upon the analysis the Division concludes the following:

1) Use of the CBA tail gas unit as documented in the Amoco application represents "Best Available Control Technology" when economic, energy and environmental factors are taken into consideration.

2) The CBA tail gas unit will enable the Amoco plant to operate within the allowable Class II area without violating applicable SO_2 increments.

3) The operation of the plant will comply with all applicable air quality standards and regulations.

Therefore the Division proposes to approve Amoco's request to construct a gas sweetening plant and sulfur recovery unit using a CBA tail gas clean up unit with the following conditions:

1) The tail gas incinerator will be limited to a SO_2 emission rate of 3115 lbs/hr based on an overall sulfur recovery efficiency of at least 98.6%.

2) That a continuous in-stack monitoring system for measuring sulfur dioxide emissions be installed, calibrated, maintained and operated. The monitoring system shall comply with the requirements of Section 22j of the Wyoming Air Quality Standards and Regulations. Record keeping and excess emissions reporting shall comply with Section 22g of these Standards and Regulations. Periods of excess emissions shall be defined as any six-hour period in which the average emissions of sulfur dioxide exceed the emissions defined by 98.6% control efficiency (expressed as percent by volume at zero percent oxygen on a dry basis).

3) That Amoco establish and operate an ambient monitoring network to continuously monitor sulfur dioxide (SO_2) ground level concentrations. The network shall initially consist of one(1) meteorological station to measure and record wind speed and direction, and one(1) continuous SO_2 monitor. The Division will require the meteorological station to be operational on start of construction. Wind data collected will be reviewed by the Division for placement of the SO_2 monitor prior to plant start-up. The Division reserves the right to request expansion and/or relocation of the monitoring network at such time as data or future development of the area dictates.

APPENDIX 5
BLM REQUEST FOR SECTION 7 CONSULTATION

UNITED STATES GOVERNMENT

memorandum

DATE:

REPLY TO ATTN OF: District Manager, Rock Springs 6840(430)

SUBJECT: Formal Consultation Recommendation

TO: State Director (932)

It is my recommendation based on the attached information that you request formal consultation with the Fish and Wildlife Service (FWS) on Chevron's and Amoco's proposed Natural Gas Treatment Plants and ancillary facilities as they "may affect" endangered Bald Eagles and Black-footed Ferrets. The proposed railroad route, which will connect plant facilities, passes through a Bald Eagle wintering area at Woodruff Narrows. White-tailed Prairie Dog towns occur throughout the area and may indicate black-footed ferret habitat. Five (5) supposed ferret sightings were made from 1977 to 1979, ranging from 3 to 6 miles from the proposed railroad route at Dry Hollow, indicating possible presence of ferrets in the area. Attached is a description of the proposed action and USGS topographic maps showing location of facilities.

The attached BLM report describes an examination of the Bald Eagle wintering area at Woodruff Narrows conducted by state, district, and resource area biologists. Included is a memorandum from the Kemmerer Area Biologist concerning possible Black-footed Ferret sightings.

An informal consultation "may affect" opinion was given the Bureau by Dale Harmes of the Fish and Wildlife Service on March 13, 1980.

Donald H. Deering

Enclosures

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-75)
GSA FPMR (41 CFR) 101-11.6
5010-112

PROPOSED ACTION

Chevron proposes to build a $140-160 million natural gas sweetening plant on BLM administered land (T. 18 N., R. 119 W., Section 6). The purpose of the project would be to remove hydrogen sulfide (H_2S) from sour natural gas occuring in the Carter Creek area so that this gas can be marketed. The gas in this area contains approximately 160,000 ppm H_2S. The process that Chevron proposes to utilize would remove approximately 99.7% of the H_2S. The plant would eventually treat 140-180 thousand cubic feet gas and produce 3,000 tons of sulfur per day. The sulfur byproduct is proposed to be shipped by railroad in a molten state to markets located primarily in the Pacific Northwest. The gas and associated petroleum distillates would be shipped to markets via pipelines.

The proposed plant would occupy approximately 190 acres located on the Bear River Divide. The plant site would contain bubbler and stripper columns, clouse process furnaces, one 250 foot stack, two 300 foot stacks, water treatment facilities, bunkhouse, office and maintenance buildings, etc. Other ancillary facilities would include an all weather access road (24' gravel), railroad spur from Sage Junction to a load out facility located in T. 18 N., R. 120 W., Section 24, an above ground molten sulfur pipeline with an adjacent service road, water well and pipeline, electrical transmission powerlines and gas pipelines from the wells and from the plant to the marketing gas pipeline. Chevron's proposed plant and associated facilities are expected to take approximately 3 years to construct with a peak construction force of 600 persons. The normal operating and maintenance force would be 120 persons.

Amoco Production Company is also proposing a gas sweetening plant that would be located on private lands (plant site--T. 17 N., R. 119 W., Section 17 and the load-out facility--T. 17 N., R. 119 W., Section 7). No specific information has been received concerning this proposal other than it is expected to treat 55-70 thousand cubic feet of gas per day and produce 1,200 tons of sulfur per day. This plant would be similar to Chevron's. Amoco's sweetening plant was not analyzed specifically due to the lack of information at this time. However, it would be reasonable to assume that there would be similar non site-specific impacts as identified for the Chevron plant. Cumulative impacts could be expected and these impacts could be compounded, especially in terms of socio-economics, should construction schedules be similar for both plants.

Additional sweetening plants, similar to these proposals, could be expected should the sour gas field extend beyond what is now anticipated (see the attached map for general locations).

Alternatives Considered

Alternative 1

Locate the plants in a valley to reduce the impacts from constructing these plants, railroad, roads, pipelines, etc. in steep terrain, and in areas of

high snow accumulation, and to reduce visual impacts. This alternative is preferred by the companies but not practical since inversion would not permit the dispersion of air pollutants, and the air quality standards established by DEQ and EPA would not be met. The companies have been advised by DEQ that the proposed locations are the suitable locations.

Alternative 2

If the railroad could not be constructed then the extracted sulfur would have to be transported via hot pipeline (280°F and 320°F) to a loading point in Evanston (15 to 20 miles) or Sage Junction (15 to 20 miles). This method has not been proven yet and presents many problems. The longest pipeline of this type in existence is about 4 miles long. If the sulfur is not kept hot and solidifies, the entire pipeline would have to be replaced at one million dollars/mile. The location of the proposed plant site and railroad loadout facility necessitates constructing a four mile hot pipeline which they consider to be the maximum distance they can transport hot sulfur.

BALD EAGLES

The proposed railroad spur will be constructed through Woodruff Narrows which includes the Bear River flood plain below Woodruff Narrows Reservoir. The areas supports an extensive stand of cottonwood trees along 2 miles of river borton and is used as a winter roost and spring (March) staging area for Bald Eagles.

Inventory Data

Inventory data indicates that Bald Eagles used the Woodruff Narrows roost site from at least 2 November 1979, to 27 March 1980. The roost site was censused by 3 different crews during winter 79-80.

John Berry, Wildlife Biologist for the proposed Peter Kewitt and Sons South Haystack Mine, censused the roost using fixed-wing aircraft 5 times during the winter. Censuses were conducted at various times of day, but never at sunrise or sunset. The following number of Bald Eagles were counted: 1 on 2 November 1979, 20 on 28 November 1979, 11 on 20 December 1979, 35 on 30 January 1980, and 21 on 21 February 1980.

Personnel of the Wyoming Game & Fish Department flew the roost area using fixed-wing aircraft on 14 February 1980 and counted 59 Bald Eagles in late afternoon.

Dick McCuistion, Kemmerer Area Biologist, flew the roost site with fixed-wing on 19 December 1979 at midday and counted 20 eagles, 10 adults and 10 immatures. He flew the area again on 27 February 1980, between 0900 and 0915 hours, and counted 62 eagles, 34 adults and 28 immatures. On 6 March 1980, at 1530 hours, Dick McCuistion and Joe Lowe (Wildlife Biologist, Rock Springs) flew over the roost in a helicopter

and estimated at least 200 eagles. The following week a ground census was conducted by Area, District, and State Biologists. The census was conducted from 4 lookouts along a 2 mile section of the Bear River, counting different sections of the roost at predetermined times. On 10 March 1980, the high count was 155 eagles (81 adults and 74 immatures) taken at 1830 hours, which was at last available light. The next morning another count was made with the high count at 0630 when 144 birds (85 adults and 59 immatures) were observed. On 27 March 1980, Terry McAnanney, U.S. Fish and Wildlife Service, Sheridan, Wyoming, and Dick McCuistion counted 118 birds (46 adults, 72 immatures) during a morning census. These are minimum numbers since some eagles arrived at the roost site after dark and some left before daylight.

In summary, the Woodruff Narrows roost site was used by Bald Eagles from at least 1 November 1979 to 11 March 1980. It probably serves as a winter roost for about 60 birds and as a early spring staging area for about 200 birds.

Habitat Components

Woodruff Narrows is characterized by a combination of environmental factors which are probably essential to its continued use by Bald Eagles. The cottonwoods provide attractive perching sites. Human access to the Narrows, especially during winter and spring, is restricted because access roads are not maintained. Mule deer congregate in the Narrows and surrounding basins during winter months and winter kills provide carrion for the eagles. (Eagle pellets collected from under roost trees contained substantial amounts of deer hair.) This combination of environmental factors is uncommon in Southwestern Wyoming and one or more of these factors would, to some degree, be impacted by the construction and operation of the proposed railroad spur.

BLACK-FOOTED FERRETS

White-tailed Prairie Dog towns occur throughout the project area and may indicate Black-footed Ferret habitat. No surveys to determine the presence or absence of ferrets or the size, density, or location of prairie dogs have been made in the project area. Cal McCluskey, Area Biologist for the Salt Lake District, has reported 5 possible Black-footed Ferret sightings by Mr. Lawrence Brown of Woodruff, Utah. The alleged sightings were made from 1977 to 1979, with one such sighting approximately 3 miles from the proposed railroad route. Cal McCluskey has mapped a large prairie dog town in Dry Hollow through which the railroad route would pass. Mr. McCluskey noted that Stephen Martin of the U.S. Fish and Wildlife Service interviewed Mr. Brown concerning his sightings. Mr. Martin's report strongly suggests that the animals seen were Black-footed Ferrets.

Black-footed ferret surveys by the Fish and Wildlife Service were conducted on coal occurance areas in 1978-1979. Skeletal remains of 3 Black-

footed Ferrets have been found to date. These findings were made on the South Haystacks Mine site east of the Bear River Divide, approximately 12 miles from the project area.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

File No.
6840

DETERMINATION AND EVALUATION
OF NEED FOR CONSULTATION

To: Area Manager, Kemmerer R.A.

From: Jon Dolak, Realty Specialist
(Initiating office--District, Division, etc.)

Subject: Request for Threatened or Endangered Species Evaluation (Effect/No Affect)

Please evaluate the attached proposed action for the possible existence of threatened or endangered species (see enclosure).

Company Name (if applicable) Chevron 4-mile Gas Treating Plants
Reference No. (lease, case, project, EAR, etc.) WY-042-080 13
Location: ___ ¼ ___ ¼, sec ___, T. ___, R. ___.
Description of Proposed Action:
See attached Map.
See Proposed Action in F780-6

Jon Dolak 3/5/80
(Branch Chief or Supervisor) (date)

Response: Data Review and Determination of Impact on Threatened or Endangered Species

To: District Manager, Rock Springs ( )

This proposal and relative data have been analyzed as to the impact of the proposed action upon the following species:
Black-footed ferret and Bald Eagle

The data used to support this determination was summarized and filed in Pioneer Trails URA and Field Examinations.

The analysis indicates that there would be a (~~no effect~~) (may affect) situation as a result of approving the described action. Initiation of formal consultation (is) (~~is not~~) recommended.

Comments (Use reverse side if necessary): BFF activity has been reported in the vicinity of Woodruff by Cal McCluskey, District Biologist, Salt Lake District, BLM. Bald eagles have been observed using the narrows area as a roosting site for the past 2 winters. Most recent aerial survey counted 62 eagles (34 adult and 28 juveniles) on 27 Feb 1980 using the cottonwood trees in the narrows and along the Bear R. west of the narrows.
The basins lying between the proposed plant site and the Woodruff over.

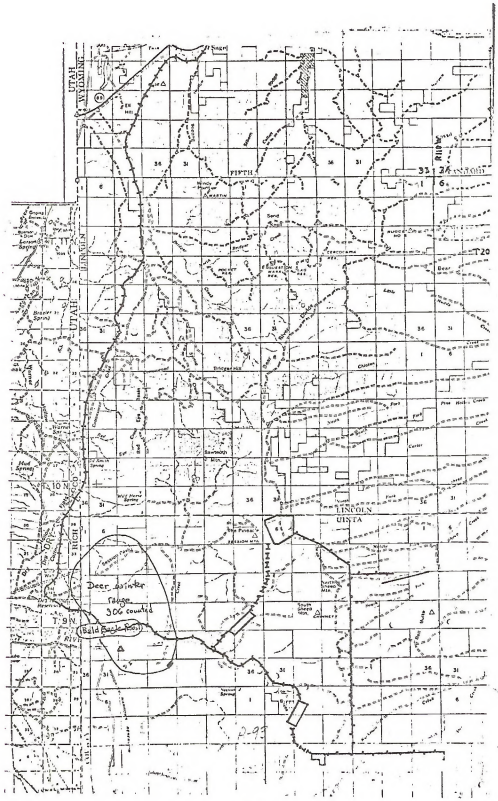
Acting Area Manager 3-6-80
(date)

WY 6840-1(Jan. 1979)

Narrows Reservoir is critical mule deer winter range. These two basins contained & counted deer herd of 906 animals. It is estimated that at least 2000 animals (deer) were using the basins at the time of the aerial count on 26 Feb 1980 The winter wildlife stipulation should apply here - No surface occupancy between the period 15 Oct - 15 May.

The proposed rail route traverses established sage grouse strutting grounds and breeding complexes. The stipulation excluding surface occupancy or disturbance should apply here also (1 Mar - 15 June).

R. D. McCuistion Sr.


UTAH
WYOMING
UTAH
UINTA
LINCOLN
UINTA
FIFTH
T20
T9N
Deer winter range 300 counted
Bald Eagle Roost
D-95

6840

Form 1541-3
(July 1965)
(formerly 4-1599 a)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIRMATION/REPORT OF TELEPHONE CONVERSATION

TO	Name R.D. McCuistion	FROM	Name Cal McCluskey
	Office Kemmerer R.A.		Office Salt Lake District
	Location Kemmerer, WY		Location Salt Lake City
	Telephone Number 877-3933		Telephone Number 415 588-5348

Purpose of Call:

Provide information on alleged Black-footed ferret (Mustela nigripes) sightings in the area around Woodruff, UT and the Woodruff Narrows Reservoir, WY.

Explanatory Remarks:

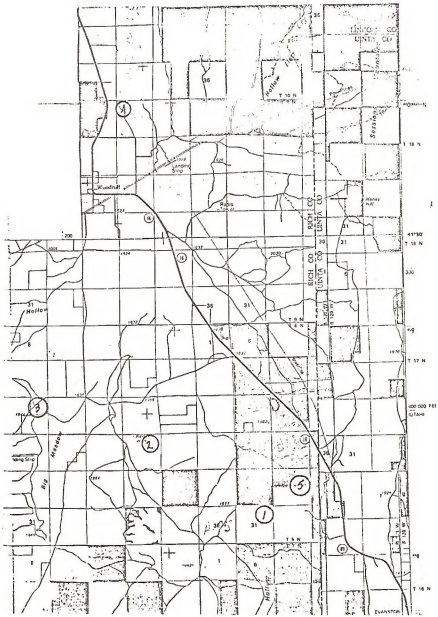
Cal McCluskey indicated that 5 possible sightings of black-footed ferrets have been made by a Mr. Laurence Brown of Woodruff, UT. Since 1977. Description of the animal and its habits strongly indicates a population of black-footed ferrets. The animals sighted occur in association with white-tailed prairie dogs. The suspected ferrets have been sighted in the spring and summer by Mr. Brown. Trenching activity has also been noted. Four (4) sightings have occurred in the NE ¼ Sec. 31, T. 8N, R. 8E (1½ mile west of WY-UT state line). Cal will forward topographic maps pin pointing the sightings to the Kemmerer office. John Lloyd, USFWS, Billings MT. and Steve Martin, USFWS, Denver Research Centre have been notified of the sightings.

11 December 1979
(Date)

R.D. McCuistion
(Signature)

Alleged black-footed Ferret sightings by Lawrence Brown of Woodruff, Utah

1. 1977 (Spring)
2. 1976 (Spring-Summer)
3. " "
4. " "
5. 1979 (Spring)


Woodruff
Randolph
Bear River
Bear River
Evanston
Stillwater
Big Muddy
Smith Fork
Sheep Creek
Bear River
Bear River
Bear River

Form 1541-3
(July 1965)
(formerly 4-1399 a)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIRMATION/REPORT OF TELEPHONE CONVERSATION

TO	Name Dale Harmes	FROM	Name Joe Lowe
	Office (FWS) Fed. Bldg., Room 3035		Office BLM, Rock Springs District
	Location Billings, Montana		Location Rock Springs, Wyoming
	Telephone Number FTS 585-6059		Telephone Number 382-5350

Purpose of Call:

Informal consultation (per "may affect" determinations for Bald Eagle and Black-Footed Ferret) on railroad spur for Chevron-Amoco treatment plants, reference no. WY-042-EA80-15.

Explanatory Remarks:

The proposed action and circumstances involved were explained to Mr. Harmes as follows:

1. Amoco and Chevron propose to each build natural gas processing facilities (sweetening plants). These projects would consist of two major subfacilities, the gas processing site and a storage/loadout site, connected with hot sulfur pipelines, well gas supply and gathering lines, water supply pipelines, electrical powerlines, access roads, telephone lines, a possible airstrip, construction camps, and joint use railroad. Railroad would commence at Sage Junction and proceed in a southerly direction through Woodruff Narrows, a distance of approximately 28 miles.

2. Bald Eagles have been observed utilizing the Woodruff Narrows as a wintering area for the past two seasons by the Kemmerer Resource Area Biologist. A ground census conducted of the Narrows, March 10, 1980 by District, Resource Area, and State Biologists revealed 155 Bald Eagles (81 adults, 74 juveniles) roosting in cottonwoods along the Narrows.

(Date) (Signature)

CONFIRMATION COPY

Form 1541-3
(July 1968)
(formerly 4-1599 e)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIRMATION/REPORT OF TELEPHONE CONVERSATION

TO		FROM	
	Name		Name
	Office		Office
	Location		Location
	Telephone Number		Telephone Number

Purpose of Call:

Explanatory Remarks:

3. Five (5) supposed Black-Footed Ferret sightings were made near the town of Woodruff from 1977 to 1979. The nearest sighting to the proposed railroad route was approximately 3 miles and the furthest approximately 9 miles. Resource Area Biologist has indicated white-tailed prairie dog activity in the Dry Hollow area through which the route would follow.

4. Dale Harmes stated that based on the information presented, he believed the proposed railroad route through Woodruff Narrows a possible "may affect" for Bald Eagles. He stated that due to the historic sightings, he would have to agree with the area biologist opinion of a possible "may affect" for Black-Footed Ferrets.

3/13/80
(Date)

Jac U. Gould
(Signature)

CONFIRMATION COPY

APPENDIX 6
VISUAL CONTRAST RATINGS FOR PROJECT AREA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 3/13/80
District: Rock Springs
Planning unit: Pioneer Trails
Activity: Lands

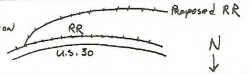
SECTION A. PROJECT INFORMATION

1. Project name	2. Critical viewpoint number	3. MFP Stop III VRM class
Whitney Canyon - Carter Creek Proj.	one	Three

4a. LOCATION

TOWNSHIP	RANGE	SECTION
T. 21 N.	R. 119 W.	7

b. LOCATION MAP



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LAND/WATER	FORM	Rolling, curvilinear, ridge (background), flat valley bottom (foreground)
	LINE	Curving, sloping, smooth, horizontal
	COLOR	Brown, dull, sbdued, uniform (except white snow in winter)
	TEXTURE	Uniform, large, smooth to coarse
2. VEGETATION	FORM	Regular, continuous
	LINE	Horizontal, straight
	COLOR	Brown, dull, subdued, uniform
	TEXTURE	Smooth to coarse
3. STRUCTURES	FORM	Flat, linear, straight to gently curving
	LINE	Straight to gently curving, horizontal
	COLOR	Dark, subdued
	TEXTURE	Smooth, fine

(Continued on page 2)

Form 8400-4 (September 1978)
U.S. Government Printing Office 78-779-312

SECTION C. PROPOSED ACTIVITY DESCRIPTION

(Refer to BLM Manual Section 8131 for proposed descriptions and requirements)

1. LAND/WATER	FORM	Flat, linear, steep-angled small slopes (minor cut and fill slopes)
	LINE	Straight to gently curving, horizontal
	COLOR	Dark, subdued
	TEXTURE	Smooth, fine
2. VEGETATION	FORM	Irregular, broken
	LINE	Horizontal and broken
	COLOR	Dull, subdued
	TEXTURE	Smooth
3. STRUCTURES	FORM	Flat, horizontal
	LINE	Horizontal, straight to gently curving
	COLOR	Dull, brown/black
	TEXTURE	Smooth, fine

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

DEGREE OF CONTRAST	FEATURES: LAND/WATER BODY (1) Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)	VEGETATION (2) Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)	STRUCTURES (3) Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)
ELEMENTS: Form (4x)	12	8	4	0	12	8	4	0	12	8	4	0
Line (3x)	9	6	3	0	9	6	3	0	9	6	3	0
Color (2x)	6	4	2	0	6	4	2	0	6	4	2	0
Texture (1x)	3	2	1	0	3	2	1	0	3	2	1	0
TOTALS	15				10				10			

1a. Maximum element contrast

Moderate

b. Maximum feature contrast

16

2. Does project design meet visual resource management requirements? ☒ Yes ☐ No

If "no," (or if rating is over maximum allowable) redesign project in section E, concentrating on feature/element of greatest contrast. If contrast is acceptable, this does not prelude additional mitigating measures; propose as stipulations, and list in section E.

Evaluator *(signature)* Michael Brady

Date March 25, 1980

APPENDIX 6. VRM CONSTRAST RATINGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: 3/13/80
District: Rock Springs
Planning unit: Pioneer Trails
Activity: Lands

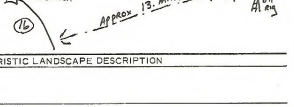
SECTION A. PROJECT INFORMATION

1. Project name	2. Critical viewpoint number	3. MFP Step III VRM class
Carter Creek Processing Plant	Two	Four

4a. LOCATION

TOWNSHIP	RANGE	SECTION
T. 9 N.	R. 7 E.	10

b. LOCATION MAP



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LAND/WATER	FORM	Rolling, blocky, irregular
	LINE	Horizon fairly horizontal, straight to slightly curved, angular and sloping
	COLOR	Dark, brown, subdued, uniform (except high contrast with snow)
	TEXTURE	Smooth to course
2. VEGETATION	FORM	Indistinct, not distinctly visible, patchy, no visible vegetaiton on horizon at site location
	LINE	Irregular, random, free flowing
	COLOR	Brown, subdued
	TEXTURE	Coarse, patchy
3. STRUCTURES	FORM	Potated
	LINE	Vertical, peaked
	COLOR	Dark
	TEXTURE	Smooth

(Continued on page 2)

Form 8400—4 (September 1978)
U.S. Government Printing Office - 78-779-312

SECTION C. PROPOSED ACTIVITY DESCRIPTION

(Refer to BLM Manual Section 8131 for proposed descriptions and requirements)

1. LAND/WATER	FORM	Flat, horizontal
	LINE	Horizontal
	COLOR	No effect
	TEXTURE	No effect
2. VEGETATION	FORM	No effect
	LINE	No effect
	COLOR	No effect
	TEXTURE	No effect
3. STRUCTURES	FORM	Cylindrical, irregular, vertical smokestacks
	LINE	Vertical and horizontal, broken
	COLOR	Light, (red and white)
	TEXTURE	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

DEGREE OF CONTRAST	FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)	Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)	Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)
ELEMENTS: Form (4x)	12	8	4	0	12	8	4	0	12	8	4	0
Line (3x)	9	6	3	0	9	6	3	0	9	6	3	0
Color (2x)	6	4	2	0	6	4	2	0	6	4	2	0
Texture (1x)	3	2	1	0	3	2	1	0	3	2	1	0
TOTALS	7				0				9			

1a. Maximum element contrast

Moderate

b. Maximum feature contrast

Strong

2. Does project design meet visual resource management requirements? ☒ Yes ☐ No

If "no," (or if rating is over maximum allowable) redesign project in section E, concentrating on feature/element of greatest contrast. If contrast is acceptable, this does not prelude additional mitigating measures; propose as stipulations, and list in section E.

Evaluator *(signature)* Michael Brahu

Date March 25, 1980

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	3/13/80
District	Rock Springs
Planning unit	Pioneer Trails
Activity	Lands

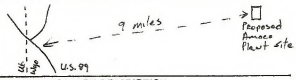
SECTION A. PROJECT INFORMATION

1. Project name	2. Critical viewpoint number	3. MFP Step III VRM class
Whitney Canyon Project	Three	Four

4a. LOCATION

TOWNSHIP	RANGE	SECTION
T. 17 N.	R. 121 W.	36

b. LOCATION MAP



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LAND/WATER	FORM	Rolling, moderate to steep slopes
	LINE	Generally horizontal wiht gently rounded highs and lows
	COLOR	Dark, brown. subdued, uniform (except high contrast wiht white snow)
	TEXTURE	Smooth to coarse
2. VEGETATION	FORM	Not distinctly visible, patchy, no visible vegetation on horizon at site location
	LINE	Irregula, random, free flowing
	COLOR	Brown, subdued
	TEXTURE	Fine to coarse
3. STRUCTURES	FORM	None
	LINE	None
	COLOR	None
	TEXTURE	None

(Continued on page 2)

Form 8490–4 (September 1978)
U.S. Government Printing Office: 78-778-312

SECTION C. PROPOSED ACTIVITY DESCRIPTION

(Refer to BLM Manual Section 8131 for proposed descriptions and requirements)

1. LAND/WATER	FORM	Horizontal, flat, straight
	LINE	Straight, horizontal
	COLOR	No effect
	TEXTURE	No effect
2. VEGETATION	FORM	No effect
	LINE	No effect
	COLOR	No effect
	TEXTURE	No effect
3. STRUCTURES	FORM	Cylindrical, irregular, vertical smokestacks
	LINE	Broken, vertical and horizontal
	COLOR	Light (green or brown)
	TEXTURE	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

DEGREE OF CONTRAST	FEATURES: LAND/WATER BODY (1) Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)	VEGETATION (2) Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)	STRUCTURES (3) Strong (3x)	Moderate (2x)	Weak (1x)	None (0x)
ELEMENTS: Form (4x)	12	8	4	0	12	8	4	0	12	8	4	0
Line (3x)	9	6	3	0	9	6	3	0	9	6	3	0
Color (2x)	6	4	2	0	6	4	2	0	6	4	2	0
Texture (1x)	3	2	1	0	3	2	1	0	3	2	1	0
TOTALS	7				0				10			

1a. Maximum element contrast

Strong

b. Maximum feature contrast

20

2. Does project design meet visual resource management requirements? ☒ Yes ☐ No

If "no," (or if rating is over maximum allowable) redesign project in section E, concentrating on feature/element of greatest contrast. If contrast is acceptable, this does not prelude additional mitigating measures; propose as stipulations, and list in section E.

Evaluator *(signature)* Michael Grady

Date March 25, 1980

VRM PHOTOGRAPHS FOR AMOCO AND CHEVRON PLANTS

Photo #	Viewpoint	Description
1	1	Arrow points to Sage Junction, terminus of the railroad
2	1	Railroad location (black line) proceeding in a northerly direction to Sage Junction
3	2	Photo taken about two miles south of Woodruff looking toward the Pinnacle and oil rig (indicated by arrow)
4	2	Photo taken looking NE from U.S. 89 toward oil rig at Chevron Plant site (indicated by arrow)
5	3	Photo taken from Woodruff Narrows Road looking toward Amoco Plant Site (indicated by arrow)
6	3	Photo taken from Woodruff Narrows looking towards oil rig at Chevron Plant Site
7	2	Photo taken about 2 miles south of Woodruff looking in the general direction of Amoco's plant site

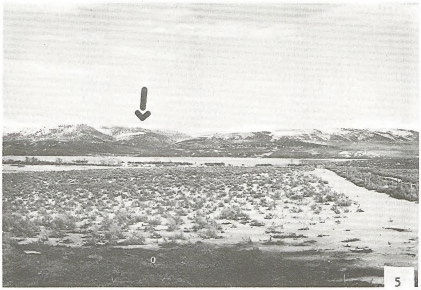
1

2

3

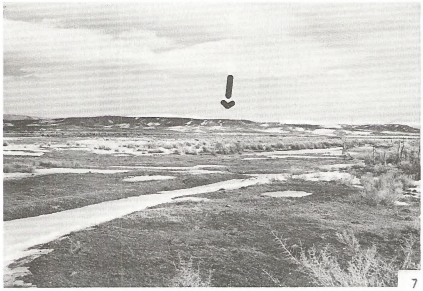
APPENDIX 6. VRM CONTRAST RATINGS

4



5

6



7

APPENDIX 7
LOCAL GOVERNMENT RESPONSES TO BLM

CITY OF EVANSTON
P. O. BOX 130
EVANSTON, WYOMING 82930
Dennis J. Ottley, Mayor

Don U. Welling, City Clerk/Treasurer
Phyllis J. Martin, Asst. Clerk/Treasurer
Wm. George, City Inspector
Dennis Harvey, Chief of Police
Dennis W. Lancaster, City Attorney
John A. Proffit, City Engineer
J. Allen Kennedy, Gen. Supt. Public Works

COUNCILMEN:
Ronald O. Davis, Chairman
Russell Albrecht
Jimmie L. Rice
David E. Bills
Russell Magrath

RECEIVED
BLM ROCK SPRINGS
DISTRICT
MAR 20 '80
DM 1 OPER
ADM 2 PLAN
PIO SP
ADMIN SO
RES BS
P&E 3 SW
LL PERS PINE
KEM

March 4, 1980

Mr. Donald H. Sweep, District Manager
Bureau of Land Management
District Office
Box 1869
Rock Springs, Wyoming 82901

Dear Mr. Sweep:

Thank you for your recent correspondence of February 15, 1980, regarding the Amoco and Chevron natural gas processing facilities to be located in Uinta County, Wyoming.

We in Evanston feel that we will be impacted by the two plants both directly and indirectly. Initially, Evanston will be impacted by the construction of the gas plants, with a minimum construction force of 1,200 workers during the height of construction. Although these will be only temporary workers, the City nonetheless must gear up for them. Something the City does not know, is how many of the workers will actually reside in the construction camps, and how many will live in the City if housing is available.

Regarding the socio-economic impacts that the City of Evanston will feel during construction, we feel that one of the most obvious will be in the area of law enforcement. We currently have a minimum of two patrolmen working throughout the night, and upon review of their work logs, it shows that they are responding to calls constantly throughout the night, which leads us to believe that the police department is at or near their capacity. Also of primary importance to the City is the capacity of the existing sewerage system. Our consulting engineer has informed us that we are operating at maximum capacity levels on a regular basis and that if any significant additions are made to the system, we will exceed its capacity and face a likely moratorium on subdivisions or additions to the system imposed by the Wyoming Department of Environmental Quality (DEQ). We are in the

process of updating our system with the financial assistance of EPA which will fund 75% of eligible costs. We also have a sewer trunk line that is at, and on occasion beyond its capacity. As I mentioned, EPA will fund 75% of eligible costs, however there is a 1½ to 2½ year time lag between now and when the project will start construction. Also, the City must explore and find a means to raise the 25% local required match. The two departments mentioned above will be impacted by the construction crews and are the City's top priority for improvement and expansion. In addition to these items, all other city services will be impacted, but they are not as critical to the immediate health and safety of the local residents.

Both short term and long term and long term impacts are being studied, and as we recieve more concrete information we will be able to supply more detail as to our needs.

Both Amoco and Chevron representatives have met with local officials to discuss what we perceive to be the impacts caused by the two subject plants. Amoco representatives have stated that they would help us in mitigating the to date identified impacts. Chevron representatives have stated that they are not yet far enough along with their project to adequately identify their impact or to commit themselves to mitigating measures. To date, we have not heard of what assistance if any will be provided by either company, so it would be premature on our part to say what either company will be providing in the way of assistance.

I hope this response is helpful to you in preparing your environmental analysis. It is not the intent of the City of Evanston to hinder or slow the plans of either company, and at the same time we feel that any significant adverse effects should be addressed. I would enjoy discussing this in more detail if needed in your deliberations.

Please feel free to contact me at 789-9694.

Sincerely,

Stephen Snyder

Stephen Snyder
City Administrator

cc: Matt Brennan, BLM
Amoco Production Co.
Chevron, Inc., U.S.A.
Uinta County Commission

Board of County Commissioners

LINCOLN COUNTY

KEMMERER, WYOMING 83101

March 18, 1980

BOYD L. EDDINS, Chairman
Kemmerer, Wyoming 83101

NANCY F. PETERNAL
Kemmerer, Wyoming 83101

DON B. HARMON
Afton, Wyoming 83110

ELIZABETH C. WADE, Clerk, Kemmerer

BLM ROCK SPRINGS DISTRICT
MAR 25 '80

OPER
DM
SP
ADM
SO
PIO
GS
ADMIN
SW
RES
PINE
P&E
KEM
LL

Bureau of Land Management
District Office
P.O. Box 1869
Rock Springs, WY 82901

Attention: Mr. Matt Brennon
Re: Amoco and Chevron Natural Gas Processing Facilities

Gentlemen:

The Lincoln County Planner has reviewed the plans for the Amoco Natural Gas Processing Facility to be located in Uinta County. Furthermore, he has meet with Chevron to discuss their plans for a similar facility also located in Uinta County. After careful review and consideration of all pertinent material, the Lincoln County Board of County Commissioners has determined that significant impacts will result from the construction of these two facilities.

Of major concern to Lincoln County are the following areas:

1. The increased use of County roads will require an increase in maintenance and upkeep.

2. There exists a possibility for increased use in off-road vehicles which may present danger to wildlife habitat preservation (i.e. poaching and habitat distruction).

3. There exists a possibility for a large influx of workers in Kemmerer seeking entertainment which will create both traffic problems and the need for law enforcement personnel to maintain order.

4. Finally, there exists the possibility for increased weekend travel by workers. This will increase traffic pressures on local, state highways, create congestion within our small towns, and will require an increase in patrols by the County Sheriff and Highway Patrol.

These impacts are of vital concern to this Board and should be of prime concern to Amoco and Chevron.

As stated, representatives from Chevron and Amoco have been in contact with us and have been cooperative in giving us information on their respective projects. But, as of yet, no arrangements have been made by either company to mitigate these possible impacts.

Page 2
Bureau of Land Management

We anticipate that future exploration and drilling by these and other companies will have an effect on Lincoln County as exploration in the overthrust belt moves northward. We would appreciate it if you would send our County Planner review copies of any right-of-ways and permit applications that might affect Lincoln County.

Sincerely yours,

Boyd L. Eddins

Boyd L. Eddins, Chairman
Lincoln County Commissioners

FJL/sjb

cc: Frederick J. Landy, Lincoln County Planner
Lincoln-Uinta Association of Governments
P.O. Box 389
Kemmerer, Wyoming 83101

Uinta County Commission

Chairman
John G. Fanos
Commissioner
Dan South
Commissioner
S. Clark Anderson

225 9th St.
Evanston, Wyoming 82930
(303) 789-9039

RECEIVED
BLM ROCK SPRINGS
DISTRICT
MAR 5 '80

DM 2 ADM 3 PID ADMIN RES. P&E LL PERS
OPER SP RO BRL SW RNE HEM
matt

March 4, 1980

Bureau of Land Management
District Office
P.O. Box 1869
Rock Springs, Wyoming 82901

Attn: Mr. Donald H. Sweep, District Manager

Dear Mr. Sweep:

We appreciate your cooperation and concern in regards to the natural gas processing plants which Amoco and Chevron propose to locate in Uinta County.

Our meeting with Amoco was quite extensive and we believe productive, although there have been no commitments other than verbal. The purpose of the meeting was to sign an agreement between the Board of Commissioners and Amoco, drafted by the Uinta County Attorney, stating specific requirements concerning the construction camp site and to state in general those areas which we feel the county will be impacted, either directly or indirectly. Those areas of concern were as follows:

1) Education
2) Medical Care and Facilities
3) Law Enforcement
4) Fire Protection
5) Support Systems: Social Services, Mental Health, Roads, Court House, etc.

It was proposed that Amoco and Chevron, along with their support facilities such as Haliburton, B. J. Hughes, etc., form a joint council to which the needs of the county may be submitted. This council would in turn review the needs and then decide amongst themselves, to the satisfaction of the county, how these needs can best be met. It was requested that the county prepare a report stating specific needs. We are now in the process of compiling reports from various agencies, such as school, hospital, law enforcement, etc., stating the problems which they will feel from both long term and short term impact. At such time as this report is completed, it will be presented to both Amoco and Chevron or a joint council as the case may be.

In summary, Amoco has stated that if the county would prepare a report listing specific needs, they would be willing to cooperate with the county in implementing measures to alleviate or lessen those problems. Chevron on the otherhand, stated that their plans are not yet at a stage where they can accurately predict what their impact to the county might be. Neither company has made a statement as to what assistance might be provided and therefore at this time I cannot identify actions which these companies might take to mitigate any socio-economic impacts which may result from the building of these plants.

It is not now, nor has it ever been the intension of this Commission to impede the construction of these camps or plant sites. We do, however, feel there are problems which arise as a direct result of these plants locating in Uinta County which must be dealt with. If I can be of further assistance, please let me know.

Sincerely,

Kathlee C. Carlton

Kathelee C. Carlton
Administrative Assistance
Uinta County Commissioners

kc

cc: Matt Brennan, BLM
Amoco Production Co.
Chevron, Inc., U.S.A.
City of Evanston

APPENDIX 8
EXAMPLE OF UINTA COUNTY PERMIT SYSTEM

PERMIT CONDITIONS

This agreement entered into this 27 day of FEB., 1980 by and between the Board of County Commissioners of Uinta County, Wyoming, hereinafter referred to as the "County" and Stearns-Roger Engineering Corporation and Project Construction Corporation, hereinafter referred to as "Applicant", setting forth requirements and conditions by the County, and accepting those requirements and conditions by the Applicant for the construction and operation of a temporary camp to house construction personnel.

RECITALS

WHEREAS, an Interim Freeze-Resolution was adopted by the County which requires written consent from the County to allow the use of property in Uinta County for any different purpose than it is now being used; and

WHEREAS, the basis of that consent was to be for the interest of the public health, safety, morals and the general welfare of the residents of Uinta County, Wyoming.; and

WHEREAS, Applicant, has been awarded a contract by Amoco Production Company to construct the Whitney Canyon Gas Processing Plant, and as a result has made application to change the use of agricultural land for the purposes of constructing a temporary and fully self-contained camp for construction personnel; and

WHEREAS, the County agrees to give to Applicant its consent for the changed use of land, however it does so with requirements and conditions so as to protect the public health, safety, morals and the general welfare of the residents of Uinta County, Wyoming; and

WHEREAS, the Applicant desires to meet those requirements and conditions,

NOW THEREFORE, the parties do mutually agree as follows:

1. The Applicants agree to construct the camp to the following standards and to furnish to the Board or their agent the following documents and information:

a) A general site plan of the proposed camp showing location of all structures and buildings and their uses, location of recreation areas, location of water storage facilities, and location of sewage disposal facility, etc. shall be furnished to the Board.

b) The Wyoming Department of Environmental Quality (DEQ) has primary responsibility for the approval of domestic water supply systems and sanitary sewerage systems in Wyoming. The applicant shall construct their systems to meet DEQ standards. The applicant shall furnish to the Board a copy of all plans for said systems and a copy of all DEQ permits issued.

c) The Wyoming Department of Fire Prevention and Electrical Safety has primary responsibility for the approval of fire prevention and electrical systems in group living quarters in Wyoming. Living quarters and other structures in the camp shall meet the standards as set forth by the Wyoming Department of Fire Prevention and Electrical Safety. The Applicant shall furnish to the Board a copy of the approved plans and a copy of the permit(s) issued.

d) If culinary water is to be from a well, a well permit shall be applied for to the State Water Engineers office. A copy of the approved well permit and certification of the well as being safe for culinary use shall be furnished to the Board.

e) Garbage and other solid waste shall be kept in approved containers of adequate number and size as stipulated by the Board in order to keep garbage from blowing off of the site. The site shall be kept free from litter at all times. Garbage shall be collected a minimum of once weekly, and disposed of in an approved solid waste disposal facility. No refuse

shall be disposed of or burned on the site. If solid waste is to be disposed of in the Evanston Landfill, a copy of a letter or other agreement with the City shall be furnished to the Board.

f) The camp site shall be used exclusively for the housing of construction personnel on a single--status basis. Support uses necessary and incidental to the housing of the personnel including but not limited to parking areas, recreation areas and facilities, food preparation and serving facilities are allowed, but the camp site shall not be used for the storage of construction equipment and material.

g) Adequate parking for personal autos shall be provided on site.

h) The site shall be fenced by a solid or chain link fence, a minimum of five feet high to keep any loose trash from blowing off the site and to keep any pets personnel may have on the premises.

i) The Applicants shall provide, on a twenty-four hour basis, security personnel. The security personnel shall keep peace and order at the site and shall handle any minor disturbances. At the discretion of the Uinta County Sheriff, the security personnel may be deputized.

j) The Applicants shall provide, on a twenty-four hour basis, their own private first-aid health personnel.

k) Roads within the site shall be constructed and maintained according to County standards.

l) Fire-fighting equipment (fire extinguishers, etc.) shall be on site at all times, and safety personnel to inspect, maintain and operate said equipment shall be on duty at the camp site.

m) The Applicants shall notify the Uinta County Treasurer's office when modular units are brought into the County and placed on the site. Notification shall include the number, size and value of the units.

n) The Applicants shall maintain a current register of all persons residing at the camp. The register shall contain the name and home address of each person residing in the camp.

o) The total occupancy of the camp shall not exceed, without prior approval of the County, 600 persons, including any necessary support personnel such as cooks, food serving personnel, security personnel, etc.

p) The Applicants shall post a surety, cash bond or other acceptable collateral with the County in the amount of $25,000, to ensure that the site shall be properly constructed, and maintained in a clean neat, orderly and sanitary condition at all times and that the site shall be cleaned after the camp use is terminated. In the event of a sewage spill, fire or other mishap, the Applicants shall immediately notify the County and other appropriate agencies and shall take immediate steps to correct the situation, repair any damage and clean up affected areas as quickly as possible. In the event the Applicants should fail to perform such work within a reasonable period of time, the County may do the necessary work, or contract to have it done, and recover the costs thus incurred from the surety, cash bond or other collateral. Once the use of the site is terminated, and after an inspection by the County it is determined that the site has been cleaned, the bond or other guarantee shall be released by the County.

q) The Applicants shall pay to the County a fee of $500, to be credited to the County General Fund, to defray the cost of processing the application and for monitoring of the camp site by the County.

r) The applicant agrees that failure to abide by any of the above conditions shall be a basis for termination of this agreement.

2. The County agrees, pursuant to the above conditions, to grant to the Applicants a permit for a change in land use to allow the applicants to construct and operate a temporary construction camp to house approximately 600 craftsmen employees and supporting camp personnel.

3. Inspection may be made by the County to determine adherence to the stipulated standards and conditions. Upon the finding of any infractions or unsanitary conditions, the County shall notify the Applicants giving them thirty days to correct the conditions. After thirty days, a second inspection shall be made. If the situation has not been corrected, the County may correct the deficiencies and recover its costs from the collateral, or it may terminate this agreement and take the necessary legal steps to have the camp vacated.

4. This agreement shall be effective for a period of two years from the 1st day of March, 1980. Any extensions beyond the two year period shall be granted by the County in six-month increments upon application being made by the Applicant and consideration for the public health, safety, morals and the general welfare of the residents of Uinta County, Wyoming; providing however that Applicants are not in default of the above conditions.

5. Applicants acknowledge that the consent of County is granted upon Applicants representation of temporary construction personal quarters. Applicants do further agree that if the camp is put to any use different than that represented by Applicant, or if any additions are made to the construction quarters, or if the use of the quarters is continued past the effective period without consent of the County, the County may rescind this consent, or require Applicants to file a request for a subdivision from the County.

IN WITNESS WHEREOF, the Board of Uinta County Commissioners, Uinta County, Wyoming, and Stearns-Roger Corporation and Project Construction Corporation have executed this agreement as of the 27 day of Feb, 1980.

ATTEST: Uinta County Clerk

BY: Chairman, Board of County Commissioners

BY: T.G. Stirl
Vice President, Stearns-Roger Engineering Corporat

BY: President, Project Construction Corp.

FEE: $10.00
Payable to Uinta
County Clerk

Uinta County, Wyoming

Application for Permit to Construct Access Roadway or Driveway

For County Use | PERMIT NO. 346043 DATE 2/5/80

The undersigned hereby makes application to construct an access roadway(s) and/or driveway(s) as shown on the attached sketch or plan "hereby made part of this application."

LOCATION OF PROPERTY

Route No. _____ off of County Road No. 56-A

approximately 4.5 (N,W,E,S) miles from Evanston Airport (city, town or well defined point)

for ingress or egress to a Construction Camp (subdivision, residence or business and type)

Subdivision lot 2 Section 32 Township 17N Range 120W

Access roadway or driveway width 24 feet, on W (N,S,E,W) side of County Road.

Proposed driveway surface Gravel (type), drainage structure: Not Applicable (size)

_____ (length), _____ (type).

Right-of-way from centerline of County Road 30 feet.

AGREEMENT

I, the undersigned property owner, request permission to construct an access roadway(s) and/or driveway(s) on public right-of-way at the above location subject to the restrictions and regulations contained in the "Uinta County Road Access Encroachment Resolution." In consideration of these regulations, the applicant agrees:

1. Construct and maintain roadway(s) and/or driveway(s) in a safe manner so as not to interfere with or endanger public travel and to perform all work in a neat and workmanlike manner, using materials acceptable to Uinta County Road Standards and that the right-of-way will be cleaned and left in a condition equal to or better than the original condition. The applicant will fully protect traffic on the County Road during construction covered hereunder by proper barricades, flagmen and/or lights, and to hold harmless Uinta County, its officers and employees from all damages, expenses, claims or liability arising out of any alleged damages of any nature to any person or property, due to the construction, performance or non-performance of work, or existence of said roadway(s) and/or driveway(s).

2. No roadway(s) or driveway(s) shall be constructed such that there will be parking or servicing of vehicles on the County Road right-of-way.

3. That the profile grade of the roadway(s) and/or driveway(s) shall be constructed as indicated on the attached sketch or plan and shall in no case be graded or maintained such that water will drain onto the County Road travel surface.

4. This permit becomes VOID if construction is not completed within _____ days after the approval date below

5. To the following additional requirements: _____

_____

_____

APPLICANT:

Name Richard Sims Address _____

City Evanston State Wyo. Zip 82930 Tele. 789-3511

Firm Name _____

Signature Richard Sims Date 2-22-80

_____

COUNTY CLERK: The required fee of ten dollars ($10.00) for application for each road or driveway access desired has been paid.

TOTAL FEE PAID 10.00

ATTEST: Joyce Holmes
Joyce Holmes, Uinta County Clerk
2/29/80

_____

COUNTY ROAD FOREMAN: Kent N Martin - application okay.

Comments:

Conditions for final approval: _____

_____

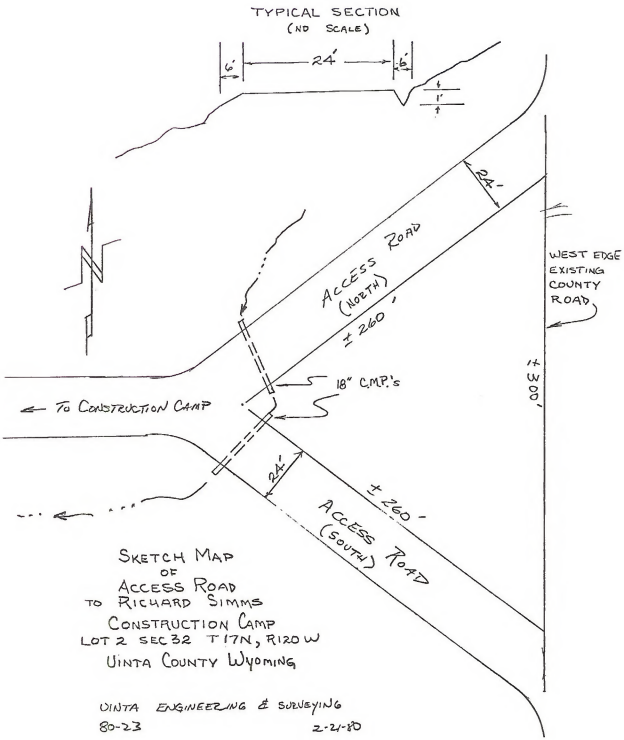
_____

FINAL INSPECTION and APPROVAL

Inspection: I have inspected the access roadway(s) and/or driveway(s) as described on this application and having found the access roadway(s) and/or driveway(s) to be constructed in the manner prescribed on this application and attached drawing(s) hereby approve the construction of the above mentioned access roadway(s) and/or driveway(s).

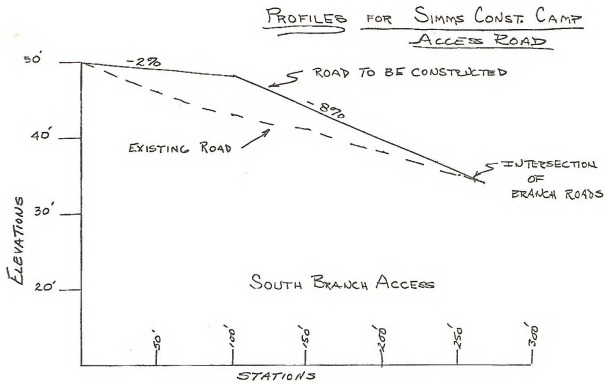
County Road Foreman _____ Date _____
Signature

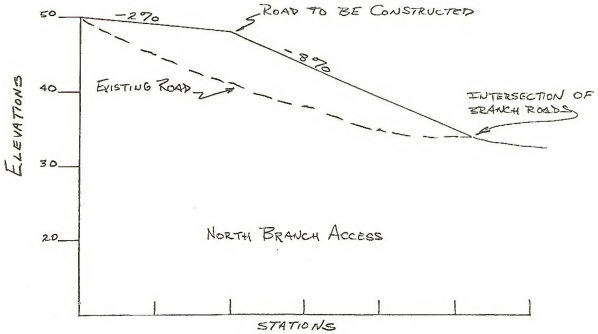
Copies to: Applicant
County Commissioners
County Clerk



SKETCH MAP
OF
ACCESS ROAD
TO RICHARD SIMMS
CONSTRUCTION CAMP
LOT 2 SEC 32 T17N, R120W
UINTA COUNTY WYOMING

UINTA ENGINEERING & SURVEYING
80-23 2-21-80


PROFILES FOR SIMMS CONST. CAMP
ACCESS ROAD
50'
40'
30'
20'
ELEVATIONS
-2%
ROAD TO BE CONSTRUCTED
-8%
EXISTING ROAD
INTERSECTION OF BRANCH ROADS
SOUTH BRANCH ACCESS
50'
100'
150'
200'
250'
300'
STATIONS


50
40
30
20
ELEVATIONS
-2%
ROAD TO BE CONSTRUCTED
-8%
EXISTING ROAD
INTERSECTION OF BRANCH ROADS
NORTH BRANCH ACCESS
STATIONS

GLOSSARY

AMBIENT. Pertaining to the surrounding atmosphere; that portion of the atmosphere, external to buildings, to which the general public has access.

ANCILLARY FACILITIES. Structures outside the actual plant which are necessary to support the major functions of the gas processing plants; e.g., well gathering lines, powerlines, pipelines, etc.

ANIMAL UNIT MONTH (AUM). The amount of forage one cow, five sheep, about 15 pronghorn antelope, five deer, one horse, or one moose eat(s) in one month.

AUTHORIZED OFFICER. The Bureau of Land Management employee to whom has been delegated by the BLM Wyoming State Director the duties and responsibilities for issuance, modification, protests, suspension, renewal, and/or termination actions associated with the rights-of-way proposed in this document.

BREEDING COMPLEX. The 2-mile radius around a sage grouse strutting ground.

CARRYING CAPACITY. The maximum number of animals that can graze on a given area of range for a specific number of days each year without causing a decrease in forage production or degrading elements associated with vegetation, such as soils. Also known as GRAZING CAPACITY.

CRUCIAL HABITAT. That portion of of a wildlife species' living area that is essential to the survival and perpetuation of the species, either as individuals or as a population.

DISCRETE OPERATIONS. Separate and distinct jobs needed to complete an overall project; e.g., construction of a railroad includes work ranging from surveying to laying of the track.

EMISSION DISPERSION CHARACTERISTICS. Refers to the way certain emissions would be dispersed under a set of atmospheric conditions.

FLOOD PLAIN. A strip of relatively flat land bordering a stream, built of sediment which was carried by the stream and dropped in the slack water beyond the influence of the swiftest current. A water flood plain is overflowed during times of high water; a fossil flood plain is beyond the reach of the highest flood.

FLOOD, 100-YEAR. A flood having a 1% probability, or an average frequency of occurrence on the order of once in 100 years, although the flood may occur in any year.

HARASSMENT. Increased human activity in an area which intentionally or unintentionally disturbs and prompts livestock and/or wildlife to change their normal use of the area. Noise generated by heavy equipment, vehicular traffic on roads as well as ORV traffic in an area, incidence of poaching, and hunting activity are examples of what constitutes harassment.

INFRASTRUCTURE. The underlying foundation or basic framework of the social organization; i.e., businesses, government, police and fire departments, public service agencies, etc.

LAMBING AREAS. Those rangeland sites used primarily by domestic ewes when giving birth to their offspring.

LEK CENTER. The site of sage grouse courtship.

LIQUID HYDROCARBONS. Substances composed of hydrogen and carbon atoms which are in a liquid state by natural occurrence or by artificial manipulations such as changes in pressure and/or temperature.

LONG TERM. Life of the project and post-reclamation efforts (1995-2030).

MINING. Mining is used here in the broad sense to include the extraction of gaseous, liquid, and solid minerals occurring naturally, as well as other preparations customarily performed at the mine site or as part of mining activity (Wyoming Department of Administration and Fiscal Control 1979).

MODIFIED MERCALLI SCALE. A classification of the effects produced by earthquakes of various intensities, ranging from I (felt by very few people) to XII (nearly total damage, line of sight and level distorted). An earthquake intensity of VII would produce difficulty in standing, broken furniture, waves on ponds, turbidity in water, small slides along sand or gravel banks, and damage to concrete irrigation ditches (Leet 1971).

NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS). EPA promulgated primary and secondary NAAQS (Federal Register 1971) on April 30, 1971. The primary standards were established to protect human health; the secondary standards were established to protect the public welfare from known or anticipated adverse effects. Currently NAAQS exist for total suspended particulates, sulfur dioxide, carbon monoxide, photochemical oxidants, and nitrogen oxides.

NATURAL GAS. A mixture of gaseous hydrocarbons found in conjunction with deposits of petroleum to which the gaseous compounds are closely related.

NATURAL GAS LIQUIDS. Those liquid hydrocarbon mixtures which are gaseous in reservoirs but are recovered by condensation or absorption; i.e., butane, ethane, iso-butane, natural gasoline, and propane.

106 COMPLIANCE. Under Section 106 of the National Historic Preservation Act of 1966, the Advisory Council on Historic Preservation must be given an opportunity to comment with regard to any action which may affect any site on or eligible for inclusion on the National Register of Historic Places. Federal agencies comply with Section 106 by submitting for the Council's review and comment a report on such sites or potential sites. (See 36 CFR 800 for Council's guidelines.)

OVERCROWDED UNIT. More than one person per major room (LUAG 1977).

OVERTHRUST BELT. A term used to describe an intensely faulted belt of mountain ranges which extends from northwestern Canada to southern Utah. The thrust faults referred to are low angle ruptures in the earth's crust that relieved deep compressional forces. These faults have repeatedly stacked the rock units. The surface expression of this tectonic activity is westward dipping formations exposed in numerous ridges or mountain ranges. Each ridge moved horizontally and vertically to its position along at least one thrust fault.

PARTICULATES. Any liquid or solid particles suspended in or falling through the atmosphere.

PRILLING. A process of converting molten elemental sulfur into spherical pellets.

PROCESSING PLANTS. The facilities that remove liquid components and contaminants from natural gas which is taken from underground reservoirs.

PROJECTS. The construction, operation, and maintenance of all structures and supporting facilities necessary for the processing and shipment of the refined natural gas and by-products derived from natural gas which is taken from underground reservoirs.

PUBLIC LANDS. Public domain administered by the Bureau of Land Management for the purpose of providing a wide variety of uses and resources to public users, including forage, wood products, minerals, open space, protection of cultural resources, recreation resources, and wilderness.

REGIONAL SIGNIFICANCE. As used in this EA, streams which have a significant fisheries resource for in the Intermountain West, particularly Colorado, Utah, and Wyoming.

RIPRAP. Broken rocks or other materials placed on the banks and beds of streams to protect them from erosion by stream or wave action.

SEASONAL SIGNIFICANCE. Streams which are used by fish only during the season or seasons of the year when there is enough water in the streams for the fish to survive.

SHORT TERM. Time necessary to successfully reclaim areas disturbed during construction but not occupied by permanent facilities (1980-1995).

SOUR GAS. Natural gas which contains objectionable amounts of hydrogen sulfide and other sulfur compounds.

STABILIZED LIQUID HYDROCARBONS. Those hydrocarbons that remain after methane, ethane, propane, and sometimes butane, hydrocarbons have been removed from the natural gas. Stabilized liquid hydrocarbons are heavier than butane and propane, and they can be stored and handled in a liquid state under normal conditions (they do not require refrigeration and/or pressurization).

SWEET GAS. Natural gas which contains no objectionable amounts of hydrogen sulfide and other sulfur compounds.

ZERO DISCHARGE. The concept of no water runoff from manmade structures or surface disturbances to surrounding slopes and drainages.

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